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Letters of F. Huber, Continued.

OUCHY, November 8, 1800.

I thank you, sir, for the many kind expressions contained in your letter. I feel fully the worth of your confidence and hope to merit it, but in matters of rural economy, as well as in others, we must rely upon experience, and therefore I spoke to you of Mr. Gliere, for whose character and knowledge I have a profound respect, and who has not been so devoted as I have to the theory. But since you are determined to have my opinions I will talk to you about bees as much as you wish, on condition only that you attach no more value to what I say than I do.

Most of the questions you ask me are yet to be solved: We will give them attention in order, and I will give you my ideas (if any occur to me), on the means to be employed to solve them.

I am highly pleased, sir, to learn that you do not entrust the care of your bees to others. The experiments you have made prove that you are fully qualified to handle them with impunity. You are the first to confirm what I have stated. That the only requisite is gentleness, and the firm conviction that the sting is only a formidable weapon to those who treat them roughly, and who make awkward blunders through fear. It also gives me great pleasure to learn that you are prosecuting investigations that I have not been able to pursue. I will assuredly contribute to your success by every means in my power.

The fact that you have noticed is very extraordinary; that queen found dying near your hives and not recognized by any of your bees, might she not have been a stranger queen abandoned, and who came to seek the shelter and the subjects she had lost?

Queens cease laying when they approach the end of their lives; their hive decreases in population daily, and the colony reduced at last to a very small number,* leaves the queen, and never returns to the natal hive; the workers attracted

to happier homes, enter, and are sometimes well received; but the fate of the queen is very different. The bees of the hive she attempts to enter envelope her as you have seen, hug her in their midst, and exhaust her and cast her on the ground, when hunger or the hugging she has received renders her incapable of renewing the attempt.

The beginning of this account is only conjectural. I have never been so fortunate as to be able to follow a queen from her birth to her natural death; neither do I yet know what is the length of the life of a queen.* Probably, you, sir, will be able to tell us that.

This inquiry is useful as well as curious, and I commend it to you. If I have not seen queens die of old age in my own hives, I have often been visited by strange ones that came from I know not where, either alone or poorly accompanied, at the beginning or end of autumn; most frequently these old queens have been found dead at the foot of my hives; at other times I have found them alive on some neighboring stake, having about them fifty or more of their workers. I have seen them pass several days in the open air, and as they also remained there during the night, I may conclude they had no home, and that this small number of workers were all that remained of the family they had presided over.

Only once have we seen the attempt of an aged queen to enter one of my hives succeed. She at first offered herself to others who gave her a poor reception, because they had a queen; but she entered without any difficulty a hive that had lost their queen. Her dark color and the slenderness of her body indicated old age, of which her sterility was a still surer indication. She did not lay an egg in the hive that adopted her at the latter part of autumn, and she died at the end of winter without having laid a single egg, and as queens begin laying the latter part of January, the old age of this one was proven by her sterility. I am more disposed to believe that the queen found at the foot of your hives was a stranger to them, than that she went away from one of those you operated upon October 14th; which even if wounded or dying would not have been unrecognized.

* Huber is speaking of black bees. In my experience the Italians almost always supersede their queen, when her fertility becomes seriously impaired, by rearing another from her worker brood.

L. L. L.

* Huber's fidelity to truth is everywhere apparent. He is never ashamed to confess his ignorance.

L. L. L.

The queen cell found in this hive proves that it had been queenless for some days. Did you discover it on the 14th of October, or later? This circumstance may help to decide the question. The agitation which you noticed would lead one to think that this hive had just lost its queen, and in this case the one you offered, it was not probably the queen it had lost.

To be able to explain a fact in natural history, one must know well the accompanying circumstances, without which any decision is too hazardous. This calls to mind a trait in the fidelity of bees that I must relate to you.

One day I took from a colony a virgin queen that I had given it, to see how the workers would behave under the circumstances. As there was no brood in the hive the loss of the queen was irreparable. I was curious to see what they would do, but I could not perceive any agitation among them, nor anything that led me to suspect that they regretted her loss, or even knew of her absence. I was about to conclude that their indifference arose from her sterility and I found it quite natural that they should have no affection for a mother that was of no use to them; but this human reasoning was not the reasoning of the bees, and I was soon undeceived.

The next day I found the queen numb, from cold or hunger, in the box where I had put her. I therefore placed her in the hive; as soon as they perceived her on the table where she was lying, I saw a few workers range themselves around her, caress her, fawn over her with their proboscis, offer her honey which she did not take, and brush her with their feet; all this was useless; she was dead.

Their care did not diminish from ten o'clock in the morning to eight o'clock in the evening; I then took her away, and without any object in view, placed her on the window sill of my study, in which the hive was. Returning there at ten o'clock in the morning, I was much surprised to find my dead queen surrounded by bees, circling about her in the way you know, and giving to her dead body their customary honor.

The night was not warm, nevertheless the dead queen was not abandoned, and on the morrow I found her faithful guard invishing upon her the same care they had rendered during her life.

I once more returned her body to the hive and at the same time introduced a young fertile queen, not doubting but that the bees would instantly appreciate the value of my gift, and would prefer the mother I had given them to the dead virgin queen from whom they could expect nothing; another reasoning, also human and quite as pitiable as the preceding. The bees who do not reason, and who perhaps are none the worse for it, treated the strange queen very rudely; they held her in the middle of a mass of bees so that she could not move, and kept her thus over eighteen hours. At this stage the knot of bees reached the entrance of the hive; it was larger than a nut; the bees that formed it imparted to it such a movement, that we saw it roll like a ball which it resembled in form, to the edge of the stand on which the hive rested. Arrived there, a continuation of the same move-

ment caused it to fall on the floor without altering its form; we extricated* the queen just as you did; she had not received a sting but she was very weak; we succeeded in restoring her by returning her to her natal hive.

The bees I have been speaking to you of obstinately cared for the dead body of their queen during two days and a half; I then took her away and gave them young larvae that they nursed, and from which they procured another queen.

From this and other similar examples, I am inclined to believe the second supposition of no value, and that the queen which was not received by any of your hives was certainly a stranger to them all.

I have dispensed with the hinges of the leaf hive with regret; it is very convenient to open the hive like a book, but when it comes to shutting it up, there is an objection that compelled me to abandon this way. In closing the frames the bees get in the angle formed by two frames, and as the angle grows smaller, one unavoidably crushes those which persist in remaining in this dangerous situation. Burnens, with all his skill, could not avoid often killing them in this way, and it is he who asked me to get rid of the hinges and proved the necessity of it.†

You understand, sir, that you run no risk at all of crushing the bees when the frames are not fastened to each other—you can bring them close together without forming any angle, and can give the bees time to dispose of themselves on the faces of the two combs.‡

The invention you have made for uniting four frames, appears to me excellent; but the leaf hive must have a cover to protect it from changes of wet and dry, which will after a time warp the wood of the frames. It is not then enough, as I have formerly said, to bind together the hive with a cord or twine; such a band is too weak, and does not prevent the hive from bursting open. I might have foreseen this, but can one think of everything?

You will receive in a few days, sir, a small box containing a model of a hive and a little memoir, which I thought to add to this letter, &c. But as the rest is not ready, I cannot longer defer.

* I have frequently lost a queen by attempting to extricate her—the bees becoming so excited as to sting her. Taught by sad experience, I no longer attempt to separate the bees, but put the ball into a vessel of cold water; they will then very speedily uncluster, and the queen can be safely secured.

L. L. L.

† The generous nature of Huber is no where more apparent, than in his readiness to give to every one full credit for valuable observations or suggestions. "Suam cuique"—his own, to each one, seems to have been with him a sacred maxim.

L. L. L.

‡ In Bevan, on the Honey Bee, 1838, p. 108, may be found Dunbar's improved Huber hive. The frames are held together on the front "by shifting butt hinges, and at the back by hooks and eyes." To prevent the bees from being crushed, in the manner described by Huber, Dunbar "ploughed out the edges of the frames through their whole extent, to within an eighth of an inch of their outsides."

L. L. L.

lay to reply to yours, and to assure you of my devotion,

I have the honor to be

Yours, very respectfully,
FR. HUBER.

—
[For Wagner's American Bee Journal.]

Are Artificial Queens Inferior to Natural Queens ?

The experience of Mr. L. Bevan Fox, detailed in the article republished in the April No. of the American Bee Journal, from the London Horticultural Journal, is precisely the same with our own. As the subject is one of the greatest importance, both to breeders and purchasers of Italian bees, we shall give our views upon it at some length.*

In 1869, having an unusual number of natural swarms, we determined to secure for most of our stocks, queens bred from what we shall call *swarming queen cells*; so that we could advertise such queens for sale, if we found by experience that they were better than queens bred from non-swarming queen cells. The next season being a poor one, both for swarms and honey, the larger part of our stocks retained these queens, and they remained in our apiary, until in 1871 we superseded them by young queens. Having thus tested such queens for three seasons, and on a large scale, we could not see in them any superiority to queens reared *under favorable circumstances*, from non-swarming queen cells. If any such superiority had existed, we think that it could not have escaped our notice, as we were not influenced by any preconceived theories, and might have sold these queens to better advantage, if we could only have guaranteed their superiority.

We shall now explain exactly what we mean by *favorable circumstances*, so that all our readers may know how to secure them; and thus be able to breed queens from non-swarming, fully equal to those bred from swarming queen cells.†

By favorable circumstances, we mean: 1st. *The proper season of the year.* We have had a

queen reared in a full stock in the month of January, when the mercury during the time of her incubation, was once below zero! but while this is possible, the right time for rearing queens in nuclei is, when the season is far enough advanced for the bees to gather freely both pollen and honey, and when drones are beginning to appear, or are nearly matured. From this time until late in September, I have ordinarily found in the latitude of 40 degrees no difficulty whatever in rearing choice queens. 2d. *Abundance of worker bees.* If the nuclei are so small as to become discouraged, the queens being often poorly nourished will be shy breeders and short lived. Not only should there be a generous allowance of bees, but a *large* proportion of them should be *young bees*, or the best results cannot always be secured. 3d. *Abundance of pollen.* If this is deficient the queens not being well fed, will be undersized, or otherwise defective.

We shall here call attention to a marked difference almost always found in the supply of royal jelly given to natural and artificial queens. While the larvæ of the swarming queen cells are usually so *over* supplied that a considerable quantity remains in the cell after the queen has emerged, there is seldom any excess found in the non-swarming cells. Those who have so confidently pronounced all queens reared in non-swarming cells inferior if not worthless, will probably think that these facts prove that the swarming queen cells are well provisioned, while the others are not. But "enough is as good as a *feast*;" and enough the non-swarming cells will usually be sure to have, if the breeder understands his business. Why the bees provide an excess for one kind and not for another, may not be apparent, but the former, although "papped, capped and napped in the lap of prodigality," having been "born with a silver"—or judging from the color of the royal surplus—"with a golden spoon in their mouths," are not a whit better fitted for the exigencies of life than their seemingly less favored sisters.

4th. *Abundance of honey.* It is desirable that the queen-rearing nuclei should not only be well provisioned, but if natural supplies are not easily procured by them, they ought to be regularly fed in order to keep them at all times in *good heart*. They should not only know nothing of actual scarcity, but should by generous feeding, be saved from even the apprehension of it, and thus made to feel confident in their resources, and ready for all emergencies.

Every experienced breeder knows that he can always have queen cells so largely in excess of his wants, that he need save only such as are perfectly developed. Such cells are usually of good size, and *roughened* all over with ornamentations, as though for some reason the bees felt a special interest in their inmates, while such as are undersized, *smooth*, and *blunt* instead of having the usual tapering proportions, are much more likely to produce inferior queens.

Under the most favorable circumstances some queens are produced which are so small, or so poorly developed, that the expert destroys them as soon as seen. He who cannot form a pretty accurate judgment from seeing a just hatched

* In 1849 we made our first observing hive, and witnessed, almost hourly, all the steps in the process of queen raising from worker brood. So few persons in this country then believed in the possibility of bees producing queens from worker larvæ, that we at one time seriously thought of having the facts *certified* to by Rev. Albert Barnes, and other distinguished Philadelphians, who were eye witnesses to them! How strangely such reminiscences must strike the new generation of beekeepers, to whom, by the aid of movable frames, all the steps in the process of queen rearing are now so familiar.

† If the terms *Natural* and *Artificial* queens are used merely to designate queens bred from swarming or non-swarming queen cells, we do not object to them—but we wholly object to using the word *artificial* to designate some supposed deviation from the laws of Nature, which secures an unnatural and inferior kind of queens. The rearing of queens when bees do not intend to swarm, either to supply the loss of a queen from accident or disease, or to supersede one which is superannuated, or not sufficiently prolific, is plainly a *natural* process.

queen, whether he should preserve or destroy her, is unfit for the business of breeding queens for sale.

L. L. LANGSTROTH.

Dried Cow Dung for Fumigating Bees.

Nearly two thousand years ago, Columella recommended the dried dung of cattle as the best thing for fumigating bees. Learning, soon after importing the Egyptian bees, that the Egyptians made use of the smoke from this substance in all their operations upon their irascible bees, we began to use it largely in our apiary. The smoke from burning cow dung, while very penetrating, is not offensive. It can be blown so as to diffuse itself very quickly through the hive, and yet it does not seem to irritate the bees, and our own experience confirms the very strong commendations of Columella. Wherever rotten wood is not easily procured, it will be found of very great value.

When thoroughly dried, it will burn slowly but steadily; and by slightly dampening the outside after lighting it, a piece not larger than the hand may often be made to last for several hours. It does not always ignite as readily as one could wish. Dr. E. Parmley has obviated this difficulty by dipping one corner in coal oil. The odor is so little offensive that it may be used instead of pastilles in the sick room, a little sugar being sprinkled upon it while burning. Those who know how universally the dung of buffaloes, called *buffalo chips*, is used for cooking purposes on our great plains, will feel no prejudices against this seemingly uncleanly substance. We shall call it *buffalo chips*.

L. L. LANGSTROTH.

Uses of Wool in the Apiary.

For the last four years we have used *wool* quite largely for various purposes in our apiary. We use nothing else for stopping up our queen cages, rolling it for this purpose into a tight wad. The bees cannot gnaw it away, and seldom pollise it. We shut up all our nuclei, when first formed, with wool. It can be crowded into place in a moment, admits air, and is easily removed. If we wish for any purpose to shut up a hive, we use wool. In the working season, we keep one "pocket full of wool," and know nothing of the vexations we experienced when using wire-cloth. Occasionally a few bees are caught in the fibers of the wool, but they are for the most part very shy of it, and are quite indisposed to commit *felo de se*, by hanging themselves in its meshes. Robbers will very quickly retreat from a hive well woolled. If we use the words *to wool* and *unwool* a hive or nucleus, instead of to shut up or open the entrance, our readers will understand what we mean.

L. L. LANGSTROTH.

[For Wagner's American Bee Journal.]

Controlling Fertilization.

The controversy on this subject waxes hotter and hotter, and Mr. W. H. Furman seems determined to secure the services of the most prominent parties who have claimed success, if money can do it. We confess that all our attempts to have queens fertilized in confinement have thus far been complete failures. We experimented upon a large number on the plan detailed by us in the American Bee Journal for May, 1871. We dissected the queens and found that not a single one had been fertilized.

For the benefit of our readers, we explain how we dissect queens. Holding the queen firmly by her head and thorax with the left hand, we pull away the abdomen with the right, quickly crushing her head to put her out of pain. We then press gently upon the lower part of the abdomen until the *spermatheca* appears, which we place upon our thumb nail. If the queen has not been fertilized this organ is rather undersized and seems to be only partially distended, looking somewhat like a small white bead; when pressed it discharges a little fluid as clear as water. If the queen has been fertilized, the sac is larger, is more distended, and has a cream like color—when pressed it discharges a milky fluid, like that which fills the organs of the drones.

Three years ago we devised a plan for controlling fertilization, which we communicated to Mr. Samuel Wagner, Dr. Elrick Parmley, Mr. W. W. Carey and some others. The plan in substance, was to use a fertilizing house or apartment with one window opening fully to the sun's ray at about 2 p. m.—to keep in it one good stock well supplied with choice drones, and to place in it the nuclei, having young queens to be fertilized. The window was to have wire cloth slides* with meshes fine enough to allow free passage to the workers only. For a large part of the day, the window to be left wholly open; but during the flight of the drones the wire slide to be opened and shut at intervals until the drones become accustomed to have their flight to the window interrupted, both when leaving the hive and when returning to it—the workers also learning the lesson of flying either through the open window or the wire cloth. This window was to be placed *high* up, and the stock and nuclei low down, and as far as possible from the window. The drones and workers from the full stock were to be properly educated before the nuclei were introduced. We hoped that in this way, when the queens took their wedding flight, they would fly about the room and mate with drones that did not feel themselves placed in a strange, and therefore an unnatural condition. We founded our hopes of success on the fact that the intercourse of queen and drone (see

* Instead of the wire cloth, panes of glass might be set in a sash, so that at the top of each glass there would be the 5-32 opening. The window might be made large enough to secure any desirable amount of light.

American Bee Journal, vol. 1, for 1861) was witnessed under the following circumstances: In Mr. S. B. Parson's apiary at Flushing, Messrs. William W. Cary and R. C. Otis saw a young Italian queen leave a small nucleus for fertilization. She returned without success, and as she left a second time, they closed the entrance to be more certain of seeing her condition when she returned. A few drones belonging to the nucleus finding their entrance obstructed, took wing and hovered near the box. The returning queen mated with one of them, which dropped dead instantly, and was picked up and preserved in alcohol. This occurrence proved that fertilization did not *necessarily* take place high in the air. A return of our old malady prevented us from testing this plan, which seems to us more feasible than any hitherto communicated to the public.

It will be observed that we do not share Mr. William R. King's fear of "the fiery workers" interfering with the natural propensities of the drones, for we have seen no evidence of any such fear, until about the time when the workers are intent on driving them from the hive. Up to this time they treat them with great affection, not only cherishing them in the larva state, but being always willing to give them honey, when they solicit it.

If this plan should prove a success, the nuclei with their fertilized queens could be removed and others set in their places, so that it would be necessary to keep only a small number in the fertilizing house at any one time.

L. L. LANGSTROTH.

Introducing Queens.

M. M. Mahin, in the March No. of the American Bee Journal, gives his way of introducing queens. He says he has introduced one with peppermint water, but would not advise the plan for valuable queens.

I wish to inform Mr. Mahin that we have been introducing queens in that way for the last four years. It is highly useful for imported queens, as it would be very dangerous to cage such queens for any considerable time, after they have been traveling for from twenty-five to thirty-five days.

My father found this method described on p. 16, vol. 4th, of American Bee Journal. He was so confident of its safety that he at once used it for introducing some imported queens. There was so much peppermint in the original recipe that some of the stocks remained in a state of feverish excitement for several days. We prepare it as follows: In a pint of sugared water, put a teaspoonful of essence of peppermint; open the hive, kill the queen, and sprinkle both sides of the comb, bees and all, with the preparation—then dip the new queen into it and place her on one of the combs. The evening is the safest time to introduce, when almost all the bees are back from the fields. We use a chicken's wing for sprinkling.

We have never lost a queen introduced in this

way, although we have used it with hundreds. When we expect imported queens to arrive, we cage beforehand a number of queens, so that we can at once introduce the imported queens. We have introduced as many as fifteen imported queens, within an hour after their arrival.

C. P. DADANT.

Hamilton, Illinois.

[For the American Bee Journal.]

Condensing Swarms.

We have said considerable in the American Bee Journal about keeping bees condensed, or in a compact mass, in order to have them work to advantage, raise brood, build comb, evaporate their honey, &c., but as there are a large number of new subscribers we think it will do no harm to give our ideas on that subject once more, and especially about the management of the extractor.

A friend of ours has lost several stocks of bees this winter and his nucleus swarms. We saw these bees in December last, and could have informed him that they would starve to death before spring, just as well then as we could do after they were actually dead. To begin with his nuclei; he extracted their honey late in the season, and the consequence was they were filled again and sealed up thin, watery honey. They had abundance if it had been properly evaporated, but that not being the case, they were never quiet, and consequently consumed all their stores and starved to death in February. Now it is my candid opinion that if the same honey had been extracted and condensed so as to have one-third the amount, and then fed back to them, they would have had abundance and would have remained perfectly quiet all winter. It is astonishing what a small amount of good honey of the right consistency it takes to winter a stock of bees. Now if his stocks that starved had been condensed by the use of the division board to six or eight combs, they would have evaporated their honey so as to have had abundance to winter on. This condensing must be attended to while the bees are gathering their stores. In using the extractor, we must be very careful not to use it too late in the season; yet honey stored late in the season, if the stock is well managed is just as good for wintering purposes as any. To illustrate this, honey stored in June is always good for wintering, because the weather is warm, and the bees are raising large quantities of brood and the stock is strong in numbers, consequently they get up heat enough to evaporate their honey, and one pound of this honey will go farther towards wintering a stock of bees than three pounds stored late in the fall in the same sized hive. Why? Because the weather being cool, they are rearing but little brood and the stock has only about one-half the number it had in June or July. But condense this stock to one-half the number of combs and we get a good quality of honey for wintering or winter food. Take one of our nuclei with three combs, keep it crowded with bees of the

proper age, and they will store as good quality of honey for winter food as the largest stock in the apiary, and when properly ventilated in a special repository will not consume one particle more honey in proportion to their numbers than the large stock. We are not writing theory but actual practice. We have wintered less than a pint of bees and they scarcely stirred all winter. Nuclei and spare queens can be wintered just as successfully as full stocks. If you do not know how to manage them so they can make their own honey, then take combs from standard stocks containing good honey and the necessary amount of empty cells for them to cluster in. Their honey should be above them instead of at the side of the cluster. Six or eight of our combs with empty cells below and honey above will winter our largest stock in the cellar, if of the right quality; while 30 filled with improperly evaporated honey is not sufficient.

In extracting honey from our large hives, we ceased to extract from the end the queen was in as soon as the great flush of honey was over. It is so constructed that as soon as the great breeding is over and the stock decreases in numbers, the bees condense themselves or withdraw to one end. Now close the other entrance and the animal heat is still concentrated the same as in a single hive, yet they have full access to the surplus end as long as the honey harvest lasts, and we can keep extracting from that end without disturbing the other. Not so with a two story hive, for we must take off the upper story in order to condense the bees to the lower story, as soon as the flush of honey is over, or we may get improperly evaporated honey in the brooding apartment for winter food. New beginners must be very cautious about this. We have had a strong swarm of bees come out as late as the 20th of September, and by condensing them in our hive by the use of the division board, they stored an excellent quality of honey for winter, and wintered as well as any stock in our apiary; whereas if we had not condensed them we should in all probability have lost them by their storing improperly evaporated honey. We got bit some 20 years ago by not understanding this, and a burned child is careful of going too near the fire. In a cool, wet season we should not hesitate to extract and evaporate by heat and return to the bees for winter food.

E. GALLUP.

[For Wagner's American Bee Journal.]

Italianizing Black Bees.

MR. EDITOR:—I will give to the American Bee Journal my mode of Italianizing black bees and giving them all good, natural queens of the best grade.

First. I get my Italian stock in a good strong condition. About the last of May or first of June have a good natural swarm to come off. Two or three days after the swarm has come off, examine the hive and see how many queen cells you have got.

Seven or eight days after the swarm comes off, make as many artificial swarms as you have queen cells for, cut out your queen cells and put one in each hive, that you have taken a swarm from. They will hatch in two or three days and your hive will have a good natural queen. This I have found to be the best way of Italianizing black stocks. I have on several occasions taken queen cells ready to hatch and put them on the lighting board of a black stand which had their queen, and in a few minutes it would come out of the cell, and the bees would invariably treat her well, and the bees either killed the black queen, or the young queen killed the black queen. I have Italianized several stands of black bees in that way. I have found on a trial of three years, that artificial queens are as a rule but of very little account. Out of 20 queens raised artificially in 1870, 12 died before the first of May, 1871, the balance died during the swarming season.

I have found to my satisfaction that good natural queens are the only safe and reliable ones.

R. MILLER.

Malugin's Grove, Ill.

[For the American Bee Journal.]

The Eureka Hive.

In the American Bee Journal for April, 1872, p. 240, I find a communication signed D. C. Hunt, North Tunbridge, Vermont. He says: "I told him I wished to see his much lauded non-swarming hive about which I had seen so much figuring to prove it the best of all hives made." He had five old stocks in the spring; but as the season advanced they all cast swarms! *Facts.* I had but four colonies in my Eureka hives in the spring of 1867. Three of them were native bees, and one of them Italian. Two of the native colonies gave no swarm; one of these gave 174 pounds of surplus honey, the other 124 pounds.

The Italian colony gave 46 pounds. Its first swarm gave $56\frac{3}{4}$ pounds, second swarm 40 pounds, amounting to $106\frac{3}{4}$ pounds. The other native colony gave $36\frac{1}{4}$ pound. Its first swarm gave 61 pounds; amount from both colony and first swarm, $97\frac{1}{4}$ pounds. From the two that gave no swarms, 298 pounds. Product of the two that swarmed, four new swarms and 204 pounds of honey. It will be seen from the above how much credit is due to his assertions that I had five colonies in the spring, and that they all cast swarms. He says, "I noticed however, to my surprise, that he was appropriating Mr. Langstroth's invention without due credit, and evidently with a disposition to detract from his claims as inventor and patentee." I believe Mr. Langstroth's liberality in giving to preachers of the Gospel the privilege of using his patent without charge is generally known. Having been in the ministry some fifty-six years, I can hardly see how the use of movable comb frames is "use without due credit," or evinces "a dis-

position to detract from his claims as inventor and patentee."

He says "Mr. William Stratton, of West Troy, whom I visited the same day, gave Mr. Hazen credit of having a good hive for box honey. But though he had one hundred and forty stocks in his apiary, I did not see one of Mr. Hazen's hives among them." "Mr. Hazen's hive, (he then called it the Eureka) is nothing more in effect than a common box hive, about the size and shape of one used and recommended by Mr. Quinby, with boxes applied to the top and sides.

Mr. W. M. Stratton, to whom he refers, believes it to possess advantages over any hive he has ever seen, in the following particulars: 1st. For approaching the sheets of comb at both sides of the hive and removing them latterly, if movable frames are used.

2d. From the number and arrangement of the surplus boxes securing the greatest amount of surplus honey.

3d. For perfect security of warmth for wintering upon the stand.

4th. From the great simplicity of its construction.

W. M. STRATTON.

Mr. Quinby writes as follows:

ST. JOHNSVILLE, N. Y., Sept. 7, 1868.

"I have visited Mr. Hazen's apiary and examined his Eureka Hive. In the arrangement of the large number of surplus boxes in close proximity to the main body of the hive, I think it greatly superior to any patent hive with which I am acquainted. And if he would apply the movable combs to which it is adapted, and a device to prevent swarms leaving, the principle would be nearer what I want in a bee hive, than any I ever saw."

M. QUINBY.

I wish to add, I am not aware of ever expressing an opinion unfavorable to the rights of Mr. Langstroth in my life, as intimated by Mr. Hunt. I have written that with the Eureka Hive, bars or frames may be used at the pleasure of the operator. I have no patent claim covering either. I think one or the other should be used. For the use of the mel-extractor movable frames are a necessity. If one keeps but a small number of colonies and does not manipulate them, but simply hives them when they swarm, and puts on and removes the boxes when required, bars are probably quite as good as frames.

JASPER HAZEN.

Albany, N. Y., April 16, 1872.

[For the American Bee Journal.]

Malt as Bee Food.

As the season is approaching for feeding bees, I will relate a fact in that connection that may be of some benefit to beekeepers:

In the spring of 1870 I had occasion to visit a distillery, as a part of my duties as United States Assistant Assessor, and knowing that rye was frequently made use of for the purpose of distil-

lation, I applied to the proprietor for a small quantity to feed my bees on. He informed me that he had no rye, but he could furnish me with some ground malted barley which he thought would be preferable, as it contained more saccharine matter. I accepted the offer, and as the weather was pleasant and the bees all out hunting for something to do, I immediately procured a large cheese box top and supplied them with a quart placed convenient to the apiary, and in a few minutes it had disappeared, and in the course of a few hours they had consumed a half gallon more. I had never seen anything to equal it before. They would dive into the flour and roll and tumble until they were filled with it, legs, head, and everything about them, and then crawl to some convenient place, and work it into balls and return to their hives. It reminded me more of a flock of wild pigeons fluttering in water to drink. They will continue to eat it until the fruit blossoms. They will not notice the rye flour so long as there is any barley within their reach.

G. B. LONG.

Hopkinson, Ky.

A Bit of Experience.

MR. EDITOR:—The season of 1871 proved to be a poor one in this vicinity. The white clover yielded an ordinary amount of honey, but the Linden bloom was injured by the late frost, and yielded but a small amount of honey; then followed a month in which the bees gathered nothing. About the 20th of August, what we call the English Smartweed began yielding honey; this plant I consider equal to buckwheat. From this plant my bees obtained their winter supply. The continued dry weather prevented the bees from raising their fall brood, thus leaving the stocks in a critical condition as regards the young bees. I determined to stimulate them up to brooding in order to have them in a proper condition for wintering. Therefore, I commenced feeding them with the poorest quality of honey, making one part water. I fed them thus one week. Some refused to raise brood. I find that every one of those colonies are dead that did not use all the honey.

Out of sixty-eight colonies I have thirty-five good strong colonies. As to the cause of them dying, I attribute it, in a very great degree to the honey. Had I extracted all the unsealed honey I believe they would not all have died, and had I fed the best quality of honey there would have been better results—thus we are all learning dear lessons never to be forgotten.

J. N. WALTER.

Winchester, Van Buren Co., Iowa.

The mortality among bees has been very great this last winter. Many colonies have starved; many have frozen from excessive cold and weakened numbers, and thousands have died from dysentery.

■ [For the American Bee Journal.]
Rambling Notes.

MR. EDITOR:—Having some leisure, I drop you a few lines from the northwest. It has been a hard winter on bees. So far as I can learn I think that one-half or more of the bees in the west have died, or become so reduced as to be almost worthless so far as surplus honey is concerned.

The majority died apparently of what is known as dysentery. Tall hives have not wintered any better than shallow ones. Some think the losses were occasioned by the long cold winter; others that it was the poor quality of the late honey, and still others that breeding was stopped so early last fall that the bees were too old to winter well. I think the trouble is in all three. Where bees have had care, there has not been much difference in the loss between those wintered out of doors, and those wintered in cellars or buildings made especially for wintering bees.

If there was any difference, those in the cellar fared worst. We have had a very long cold winter. The thermometer has not went as low as some other winters, but it has been very steady cold.

Why is it, some of the most practical beekeepers do not write more for the Journal? Is it as some large beekeepers say, if they write others can profit by their experience, and the business will soon be overdone, and they will not get a remunerative price for their honey? Others do not believe in writing for the Journal without getting large pay for what they write. Others do not believe in writing for the Journal, and then have to pay for their own articles, as they think they would rather get all the information from others and give nothing in return.

Now as to the hive question, it looks to me as if there was a great deal more fuss than there is any necessity for.

If Mr. Langstroth's patent is not worth anything as they claim, what is any of their patents worth? If there is not any patent or practical movable frames, then any one of common sense can make a better hive for practical purposes than $\frac{1}{2}$ of the so called patent hives, especially if they are beekeepers.

I will venture to say that there is not one in a hundred who buys a so-called patent hive or individual right, that at the time of purchase knows what the patent covers, and besides some of the patent hive men use the names of practical bee men, as a recommendation of their hives, without the knowledge or consent of the parties. Others will go to some practical beekeeper and leave a hive with him on trial, or if he does not want it, the bee hive vendor will ask permission to set it in the yard until he comes back, as he has only one left in his wagon and he is going after another load, and does not want to haul it around so much. If successful in leaving a hive, he will start off on some other course, and will report that Mr. so and so, giving the name of the man with whom he left the hive, has got one of these hives in his yard, and he thinks it just the hive. In one

case I knew of a swindler offering a practical beekeeper \$50, to let him set one of his hives in his yard for a short time, but was refused. His hive stood on three legs, with the greatest invention of the age, the moth trap warranted to catch all the larva of the moth in the hive, and let them fall into a tin box and break their necks.

The hive was nothing more than a box hive for two swarms, with a box on top, and side for surplus honey, with an alighting board on hinges, so as to close up every evening and not let any moth get in the hive. You could make, if necessary, the hen roost attachment for closing the hive against the moth.

Then there are some parties in the west who will adopt a common sense independent movable frame hive and recommend it to the public as the best hive in use, but are willing to sell their influence for a mess of pottage, to enable them to gull the unsuspecting public, and to make the sommersault appear all right, they will use a few of the last recommended hives; but go to their apiary in a few years and ask them to show you the practical working of the movable frame hive, and they will almost invariably go to the first hives, or the Langstroth style of frames, or if any other style of frames, one, that has not had a full stock of bees in it over three months, as the others are generally glued shut with propolis, so much as not to be convenient to handle.

I would like to talk a little about the marketing of honey in the Chicago market. Would it not be better for the beekeepers of the northwest to unite and hire some practical man or beekeeper that understands the value of the different grades of honey, to go to Chicago and sell their products for a remunerative price, than to let the commission men and honey houses control the market and dictate the terms. Moreover, by this plan the consumer would get a pure article and not pay full price for a doctored article. To illustrate, you may go to Chicago with a lot of honey; take a sample of nice box honey around among the dealers, the best price they will offer you is 21 cts. You sell your honey, and before leaving the City you see some one with a box of your honey, and ask what they paid for it, the answer will be generally somewhere between 40 and 60 cts. per lb., and if you have extracted honey, the reply generally is the market is over stocked and we do not wish any without you are willing to sell at from 8 to 10 cts. per lb.

NORTHWEST.

HOW TO CLARIFY HONEY.—A good way to clarify honey is to add two pounds of a mixture of equal parts of honey and water, one drachm of carbonate of magnesia. After shaking occasionally during a couple of hours, the residue is allowed to settle and the whole filtered, when a beautiful clear filtrate is obtained, which may be evaporated in a water bath to the proper consistency. The only drawback to this method is the length of time it takes to filter the solution; and this may be much abbreviated by taking the same amount of white clay instead of magnesia, when a nearly equally good article is obtained in much less time.—[Druggists' Circular.]

[For the American Bee Journal.]

A Large Number of Queen Cells.

In August, 1870, I removed a hybrid queen from a full stock and introduced an Italian. On the twenty-second or twenty-third day after, on opening the hive I found it literally stocked full of queen cells.

A German friend being present suggested we count them. I cut out and removed fifty-four queen cells. What was a little remarkable to me was, they were every one sealed. A majority of them were very large, but some were small. They were on the sides, bottom and edge of the combs. Will some friend tell me why so many, and whether it is common? I ought to say, perhaps, that before removing the hybrid queen—a very prolific one—they had attempted several times to swarm, but were prevented by a Quinby Queen Yard.

Bees seem to be wintering well in this section, so far as I hear. We have had cold weather since December 1st, so that those out of doors, have not been able to fly.

A. C. MANWELL.

Ripon, Wis.

[For the American Bee Journal.]

A Beginner's Experience.

MR. EDITOR:—You request beekeepers to send you an account of their experience in keeping bees, so I thought I would send you mine. I commenced beekeeping in 1866, when I was fifteen years old, by buying an Italian queen of Mr. W. H. Furman, of Cedar Rapids, Iowa, whose advertisement I saw in an agricultural paper.

I put the queen and the few worker bees that came with her, into a large box hive, bought a pound of strained honey and fed them on a piece of tin, and waited with all the patience imaginable for them to go to work, thinking in my ignorance that they would build up a swarm. Well, they stayed there a week or two, built a small piece of comb, and then swarmed. Thinking the hive too large, I went to work and made a little one and put them in it. That was the last of them. At the time the queen was purchased, Mr. F. got me to subscribe for the Journal, and I soon saw what a donkey I had been making of myself. So I let the thing rest for a while until I could read and know a little about the business.

In March, 1870, I bought two swarms in old box hives, for twelve dollars (\$12.00), one of them one, and the other eight years old. I had heard a great deal said (and almost sung sometimes), about the (Great) American Bee-hive, so I bought the right (or wrong), and made me some of them, and now I would sell out my right pretty cheap. There, I have put in an *advertisement* Gallup fashion, and I expect somebody will give me fits for it. The season of 1870 was very dry in this part of the country, and but one

of my stocks gave me a new swarm, which left the hive just a month later, and tried to enter one of my neighbor's hives, and then there was war. I supposed they were all right, as they were going and coming very briskly, but on looking into the hive after they had left, I found it about half full of nice straight comb but not a drop of honey, and I came to the conclusion that they were starved out, and that I was ten dollars out of pocket. It looked very nice *on paper* to talk about going to a hive full of bees, and open and take out the frames, with all the little scamps coming at you, *sharp end first*. Result of the season, two stocks of bees in old box hives, some empty comb hives, and bee-keeper a little down in the mouth.

I didn't like the American hive, so I went to work as all new beginners are said to do, and got up a hive after my own fashion, which I *know* is better than the American. Last year I had better success, for both of my stocks sent off a large swarm each, that filled their hives and gave me several frames, and nearly two boxes full of honey. The swarms came off in the latter part of June, one of them twenty minutes of eight in the morning.

My frames hold twelve pounds each.

In July, with the help of my father and a neighbor, I managed to get the old stocks transferred into American hives. I say managed, for we had an awful time in getting the bees out, as they wouldn't drive for rapping on the hive, or for smoke, so we used brimstone until they were quiet; then went at the hives with chisel and hammer and got them transferred, what there was left of them, for I can assure you, Mr. Editor, that about half of them were quieted, so that they forgot to get up. By grand good luck we didn't happen to kill either of the queens. They gathered enough to winter on with a little feeding at the start. In the latter part of August we got seven swarms given to us, three of them late swarms, and the other four we got for taking the honey from the bees for the owner, who gave us the brood comb to transfer along with the bees. Two of them that were transferred on the 31st of August, filled their hives in fifteen days, about sixty pounds each. We did not use any brimstone on these, but put nets over our heads and gloves on our hands, and *went for 'em*. Mr. Editor, it would have made you laugh to have seen me *light out* for the corn field when my net got loose and the bees got under it. I have got over being afraid of the *sharp end* of a bee, but they will sting for all that, have done it (94) ninety-four times this season, and it *swells* too.

I have handled bees in almost every shape this last season, except introducing queens, and I am going to try that next season. I have made this letter longer than I meant to when I started, but I hope you will excuse me as I am a new beginner.

Brother Gallup, I am going to try some of your frames in my next hives.

Yours truly,

W. M. KELLOGG.

Oneida, Ill., Feb., 1872.

[For the American Bee Journal.]

Will "Novice" or B. Lunderer (blunderer?) state through the Journal how their cloth honey-boards work, as they both spoke favorably of it sometime since, and have now had time to test it thoroughly.

Our bees are in fine condition, having passed through the most severe winter in this section, since 1832. February 15th, we found plenty of eggs, brood in all stages, and young bees; they began about that time to carry in artificial pollen, which we fed them with avidity.

We are reminded by the activity of our pets, that the time is again drawing near to undergo the trial of importing queens, with its expense and usual suspense of waiting and watching to be rewarded by receiving about one-fifth of the number alive that you sent for, and they nearer dead than alive.

We saw Miss Morgan's statement in the Journal about sending for and receiving seven or eight (all she sent for), in good order, and think we can safely say, that it is without a parallel. Those foreigners must be a gallant set, and take extra pains in preparing queens for the fair sex.

But seriously, Mr. Editor, cannot there be some way devised that we can induce these foreign queen-raisers to take more pains in sending queens?

OWEN & LADD.

Brentwood, Tenn.

[For the American Bee Journal.]

Novice.

"Mr. Novice, those American Hives are a perfect nuisance! 'they ain't good for nothing.'"

TUT! TUT! strong assertions and bad grammar too. Rather say you think they are not good.

"Don't care, they deserve it all. I know they are not good. In your absence I have examined ever so many, and they have a miserably small amount of bees and brood compared with one Langstroth hive, and as they have equally good queens and plenty of honey, it must be owing to those miserable side opening hives. I declare, if I were the bees, I would swarm out of every one until you furnished better ones."

"But, what is the reason? are not tall hives better economy than low ones, and are not the flat, 'shallow things' always called bad for building up colonies in spring?"

We opened a bound volume of the American Bee Journal, page 69, vol. 3, where we in 1867, gave our reasons for preferring the American hive to the Langstroth.

"Well, what do you think of that?"

"Just this. I am very sorry to learn that you ever wrote any such foolish stuff. For the past three years the American hive has been far behind the Langstroth, more especially, and for reasons, we don't care for them. You men can spin long theories about rarified air rising and all that, but we women take facts as we find them."

"Please do come now, Mr. Novice, and look yourself over the thirty American hives and then see the Langstroth, and don't let us argue any more when we can use our eyes so easily."

Well, Mr. Editor, we did examine carefully the thirty tall hives, and then an equal number of the flat ones, and the result was only *much more marked* than we had supposed from observations for the past three or four years.

In the American hive there seems to be a dislike to enlarging the brood circle *downward*, which they must do, as the brood is invariably in spring near the top bars. In the Langstroth hive the brood circle enlarges horizontally and the result decided was to instantly transfer all comb to the Standard Langstroth frames, not only from the American hive, but sundry other patent hives that we have been induced to give a trial; and, Mr. Editor, we have now got it all done neatly, and draw a long breath of relief when we realize that now we shall no more be bothered with close fitting tops and side openers.

We are using one of the Gallup hives, but even at the risk of being called an "old woman," again we must say that we cannot make the queen work down to the bottom of the comb in order to enlarge her circle of brood as readily as we do with the Langstroth hive; yet we selected for the experiment, one of our best queens.

Just imagine an apiary of such system that any frame will go *just right* in any hive with the accuracy almost of American watch work, and you can see what we have been working at for the past few days, and if we don't have something of that kind nearer perfect than we have ever seen, (although many claim it), we shall be much mistaken.

We have several questions in regard to that bee disease.

Mrs. A. D. Morgan, of Pella, Iowa, asks if we consider the honey, taken from stocks that have perished, safe to feed others.

After the bees are out and flying in the spring, we always feed anything they will eat, and have never had any bad results; in fact have never seen any trace of the bee-disease or dysentery, when the weather was such that they could fly.

Will our Western friends who have lost so heavily, please tell us if they are ever troubled *after* the bees are flying in the spring.

In regard to spotting the snow in spring, it pains us to see friend Gallup speak so harshly about his statements not being believed. We may have mentioned in the Journal that we thought some statements were a mistake, but certainly never meant to intimate that any one of our "large family" told a wilful falsehood.

It was not Mr. Gallup's statement that we referred to, but another one, which we have since found, and we only thought that if the writer had looked very carefully he would have found some spots.

Others besides Mr. Gallup have given the theory that when young bees were raised largely in the fall there would be no dysentery, but alas, for theories! the particular stock we wrote about had a drone laying queen and not a bee was hatched after the first of September. We wrote Mr. Langstroth for a queen, which he was not

able to furnish us in the fall, and so the drone layer was kept until the latter part of March, when some brood had to be given them to keep them from failing, so that we had all *old bees* and but few in number, yet in flying freely in February no spot was left on the snow *at all*.

Another asks if they all had pollen; to which we reply that we have not been able to find a colony destitute of pollen, even in winter.

In fact, out of the sixty-three stocks we found ample material for studying the subject most thoroughly, which we were compelled to do on account of sharper criticisms than Gallup's, that came from an individual much nearer us.

If anything else besides a pure winter diet of coffee sugar is needed, we shall have abundant opportunity to test it next winter, and will do it. We shall discard every particle of natural honey for winter use; and then if the snow is not discolored and *all* colonies healthy, which we have never had yet, we shall sail all the hats we got, old and new, "better half's," children's and all (just their hats).

Mr. Gallup's article on nuclei's hives, p. 242, we most earnestly commend. If any one thinks his plan too much trouble, we should tell them that we really doubt whether a beekeeper can use his time to any better advantage. The same directions will apply to the ordinary Langstroth hive, with such modifications as any one will readily perceive.

We might here mention that as an experiment, we killed the drone laying queen before alluded to, and allowed the old bees, assisted by a few young ones—less than a teacupful in all—to rear queens. For some time no cells were started, but at length, only two, and then they were quickly capped, as the larva was nearly ready to seal over.

One hatched in a very short time after sealing, and our assistants could find no queen, although the cell was opened properly, but we saw her at once, as we knew by previous experience what to look for, viz.: a three banded worker with rather tapering body, shaped like a queen between the shoulders, and of quick, restless movement, unlike a newly hatched worker bee. We killed her and let the other cell hatch. She was much the same, only perhaps a little more queen-like, and we will report if she lays, and how much.

We have had queens when first hatched almost as unprepossessing, that afterward became the mothers of some of our finest colonies, but not usually. Some have laid only a few hundred eggs or so, and then stopped or become drone layers.

"There, Mr. Novice, is a proof that full colonies are best for raising queens, right before my eyes."

Oh, no! not so strong as that, but so far a proof, that a teacupful of bees, all either *very old* or *too young to fly in cool weather* cannot raise a good queen, judging from many careful experiments, we think that one pint of bees of proper age, in warm weather, during a *yield of honey*, will raise as good queens as a two-story hive full of bees."

"But I should prefer being on the safe side."

Before answering this we tried to speak mildly, for we always try to speak mildly when an argument comes up; that is, if we don't get too much interested.

"Even to devoting every one of our sixty colonies to queen raising just now, if it was necessary to have sixty queens within a month."

We fear queens would be more than five dollars each at that rate, and we should be very anxious to know whether such a proceeding would really be any safer or produce any better queens.

Our basswood orchard is at this date, May 11th, in our opinion, glorious. Almost every tree has started, and some of them have put out shoots three inches in length.

The chestnuts are also doing their best, and altogether the effect of the thousands with their delicate green round leaves just touched by the rising sun, dew drops and all, is just what we said—"glorious."

That all our bee-keeping friends might stand with us and feel the thrill of pleasure in contemplating the willingness with which old "dame nature" lends her wondrous powers to our guidance, is the wish of your old friend,

NOVICE.

—•—
[For the American Bee Journal.]

Transferring Bees.

As quite a number have given their method of transferring bees, and as ours is somewhat different we send it. Our plan is as follows: 1st. We prepare the frames by nailing two strips of wood on each side with one-half inch cleat nails. We then pry the strips loose at one end, on one side of the frame (the strips should run lengthwise on the frame), and turn one strip up and the other down, each a quarter of a circle. We then place the frame bottom side up on a support prepared for the purpose. The frame should be slightly inclined from us.

2d. We prepare the hive by inverting it. Take off one side of the hive that will leave the broad side of the comb towards us. We then place a box over the hive for the bees to go up into.

3d. Transferring. We cut the comb to a measure to fit the frame, and place it in the frame. We then turn the strips to their place and press the nails into place with our thumb; we then place the frame into the hive, and it is done, so far. We have transferred bees from the woods without trouble. Ten or fifteen minutes is long enough to transfer a colony. In transporting a colony we fasten two or more frames together at the end that just fit into the hive; these strips are nailed to the frames.

Will some of the readers of the Journal tell us if it makes any difference if the comb is placed in the frame bottom side up. Some think it does not; we think it does.

SESSAYE.

Rice Co., Minn.

—•—
In a word, thou must be chaste, cleanly, sweet, sober, quiet, and familiar; so that they love thee and know thee from all others. BUTLER.

[From the Ohio Farmer.]

The Home of the Honey Bee.

It is said that our honey bee, the *apis mellifica*, originally came from Asia, and that from there it was imported into Europe, and afterward to our country, where it has had so welcome a home and entered so largely into our resources for comfort and revenue.

Though this busy and profitable servant has received many a fatal smoking and robbing as a reward for its labors, yet it has the freedom of our wide domain, and in the deep wilderness, multitudes of swarms live in security, as possessors of all their store.

In this country the bee is considered an amiable insect by its friends, seldom using its sting, except when on the defensive. I have never noticed this amiability, for several times when a boy I received a thrust that seemed to have been given with "malice prepense." Severe as the sting is here (especially when about the eye or lips), I am satisfied that it is much more so in the East. I never was stung while in that country by one, but from the accounts given by the natives, and by foreigners who have suffered from them, I am sure it must be so. I believe that in this country some persons can handle bees with far less danger than others; not because they are more kind and careful, but because they have a natural adaptation to the work; such as Rarey, Magner and Dudley have had to the training of horses.

The Siamese have their beehunters, and they say that "only here and there one can follow the business, because the bees so bite. The bee men, they don't like the smell of, and they bite them but little. They bite very hard and always when they get squeezed."

They never domesticate them in Siam, but hunt for them in the jungle, and when found, always rob them clean. This must provoke the bees, but is not fatal to them, for they live in a country where they have to lay nothing up for winter, and when robbed of what they have on hand, have (*a la Chicago*) only to begin anew.

In this country the wild bees usually seek some crevice or hollow tree in which to spread their wax and deposit their stores. But there I was told they build their combs in the open air, usually selecting as high a point as possible in the tops of some of the lofty trees. The point usually chosen is on the under side of some limb just when it leaves the body of the tree. This is often found fifty or even seventy feet from the ground.

The beehunters have ways of tracing bees similar to those practiced in our country. At a certain point they expose some sweet scented dish, and then trap the bees that gather there, and after a time let one escape. Glad to be liberated, it will rise in the air, and then make a bee line for home. They watch the direction and then follow on. When they need further direction another is let out, and on they go under its lead, and then another, until they find the prize.

But yet they have not the honey in hand. It

is full fifty feet above their heads on the lowest limb of some stately tree.

The beeman prepares to ascend. He takes his cord and basket, his knife and resinous torch, covers his body as well as he can with spare clothes of his companions and commences the ascent. When within a few feet of the comb, he lights his torch which he lets drop just below him. This fumigates his person and also puts all the bees on the wing, and they fly around in the greatest excitement and rage. He pays no attention to them, but deliberately throws his basket over the limb, and with his knife cuts off the comb, and by a cord lets it down to his partners below. He then descends and has but few stings to repent.

The quantity usually gathered from any one swarm is not large, for the bee is disposed, with all the rest of the animal creation, to take life easy, in that country, where no winter store has to be laid by, and

"where everlasting spring abides
And never withering flowers."

It is said that "every man is as lazy as he can be," and probably the same is true of the "little busy bee," that during one short summer works so faithfully and improves each "shining hour,"

"And gathers honey all the day,
From every opening flower."

The honey is never brought to market there in comb, but is always strained. It is not considered much of a luxury, nor very salable as an article of food. It is always very thin and looks more like weak maple syrup than honey. But it has a soft pleasant taste, and if we only could have had some good bread and butter to have eaten with it, no doubt it would have been in greater demand.

From the amount of beeswax that is in market in Bangkok, it must be true that a great quantity of honey is gathered every year from the jungles round about.

[For the American Bee Journal.]

The Extractor.

MR. EDITOR:—We now intend attempting to answer quite a prominent question with correspondents about how to manage with the extractor, extracted honey.

In our large yield, we can work the extractor by the side of the hive that we are operating on unmolested by robbers. But at other times we use a tight box, and as fast as we take out a comb and get off the bees, we place it in the box, shutting down the cover so that no bees can get at it, and continue thus until we have taken out all we wish from that hive. Then close the hive and carry the box containing the honey into a close room, there to extract the honey. We like to keep one set of empty combs on hand to fill the hive at the time. This saves opening again to return the combs. We cut the caps off the cells into a vessel that has a strainer in the bottom, which permits all the honey to drip out.

After draining, these caps are removed to a tight vessel and put to soak with a little water. After soaking the water is drained off and put into the vinegar barrel, and makes excellent vinegar. The comb is then ready to make into wax. Our extracted honey we do not bung up if put in casks, under twenty-four hours. If put in glass jars, we prefer to put it into an open barrel or vessel and let it stand over night, as it goes through a process of working and there is quite a scum raises to the top. This scum goes into the vinegar barrel also. In our first season's operations we put it warm, right from the machine into the jars and closed them up, and we found on selling them this scum did not look well on the top, and on opening them and exposing the honey to the air, it acquired such a disagreeable flavor that it could scarcely be used. It was *terribly annoying* to us to have our customers come to us with such complaints. By running it into an open vessel or barrel, and allowing it to go through the working process over night, then scumming and canning, it is all right. It is also better to allow it to stand awhile before putting it in a barrel. By so doing, if the honey is thinner in some hives than others, mixing brings all right. We put up our honey, the past season in new oak butter casks (heads in both ends), containing almost 150 pounds each, and we have kept them in the cellar. When wanted for use we loosen the top hoops, take out the head and melt it over the fire, as it soon candies or grains solid in the casks. Melting or scalding improves the flavor of late fall honey amazingly. In melting we do not put any water with it. We prefer our honey and water separate.

Here is another question. *How long will extracted honey keep?* It will keep a great deal longer in some families than others. Extracted honey is comparatively a new thing under the sun, and many accuse us and others of making honey out of sugar, &c. We opened one cask of our honey (and we don't know but we sold some of the same sort without opening), that looked very much like sugar. It was coarse grained and the grain looks like the grain of coarse sugar to the naked eye, and if we had not put it up ourselves we certainly should have thought it moist sugar. Yet, it was honey for all that, and when melted, of a peculiar rich flavor and of a rich golden color. It was gathered from corn blossoms. We plant a few acres of the white flint or Dutton corn on purpose for our bees. It produces abundance of honey and pollen. Dent, or western corn, produces almost nothing for bees.

ELISHA GALLUP.

Orchard, Iowa, April 16, 1872.

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In March, when the bees fly, set out rye meal, and see if every colony brings in some. Examining those that do not. Bees with a fertile worker bring in pollen also. Do not take the meal away as soon as pollen is brought in, for weak colonies do not fly far, and often pollen fails again; my bees worked two to three weeks on the meal after the pollen had come in.

HULLMAN.

[For Wagner's American Bee Journal.]

The Bee Hive Controversy.

We reprint Mr. King's reply to our criticisms on the Williams article, and to our vindication of Mr. Wagner. The readers of the Journal will know how to put a proper estimate upon it without a single word of comment from us. We shall republish in a separate pamphlet, as a supplement to the American Bee Journal, the whole of this controversy (*both sides*) as it has appeared in the pages of this Journal.

"Mr. Langstroth's Last Words."

We have too much matter of *interest* to beekeepers, to devote much space to personal affairs merely, hence we shall only glance at the voluminous valedictory of Mr. L.

The terrible "charges," the awful "treachery," the "damaging facts," have now been used as "legitimate weapons of an honorable warfare;" the pent-up, concentrated hate of years has been poured forth, and, contrary to Mr. L.'s expectations, we are not dead yet. It was too bad to keep us in "quivering suspense" for a whole month, before we could know our doom. The broadside has come, and after the smoke cleared up, we not only find ourselves alive, but positively *uninjured*. Should we not be thankful?

From an analysis of Mr. L.'s last two articles, it is evident that he considered *any* weapons he could employ against us as "legitimate" and "honorable," and if he could not kill us with one, he would with another. The awful "treachery" turns out to be only his view of what he supposes to have been our representations, in making a bargain several years since with his son, now deceased. The "garbling for a base purpose" has dwindled down to a mere difference of opinion as to whether the quotation with the omission of a clause which we indicated by asterisks, was garbling or not. He sustains his opinion by repeating the accusation, while we say the omission was made to avoid occupying space in the discussion of another subject which would have been introduced.

The attempt to create a prejudice against us by almost, if not actually asserting that we had asked him to prosecute other hive dealers, is a shrewd one, but in the end, Mr. L. will find that "Honesty" would have been "the better policy." He *knows* that he cannot produce one particle of evidence to prove this inferred charge. That was his son's proposition, made probably to secure as few unfavorable exceptions as possible, and in closing the arrangement we merely reminded them of the fact. We have done more for beekeepers in this particular than all others combined. "Actions speak louder than words," hence we do not fear that Mr. L. will establish much prejudice against us.

As an indication of how thinking men regard Mr. L.'s articles, we present the following extract (not garbled), from a letter we have just received.

"What is the matter with Mr. L.? He goes at you with hammer and tongs in column after column of trash without a single show of anything damaging. According to his own testimony you have done nothing which is not in strict accordance with business principles, and ordinary transactions. I was astonished to find such trivial matters magnified into mountains of sinfulness by one I have for years delighted to hold in grateful respect."

[For the American Bee Journal.]

Natural Prolific and Hardy Queens.

Answer to Mr. Dadant's last blow.

On pages 206 and 207, March No. of the American Bee Journal, Mr. Dadant asks me to answer his article—which should be headed “A Chapter of voluntary mistakes,” by Charles Dadant.

For I find it composed entirely of such, and I propose to prove them such.

Voluntary mistake No. 1. On page 206, he says, “yet nowhere did Novice say that his queens were too *old*, but that he replaced hybrid queens.”

Voluntary mistake No. 2. On page 206, he says, “so little did I promise to replace her, and so little did Mr. Price believe that I made such promise,” &c.

Voluntary mistake No. 3. On page 207, he says, “I never refused to replace her.”

Voluntary mistake No. 4. On page 207, he says, “but I did refuse to sell a second queen to Mr. Price.”

Answer to mistake No. 1. On page 224, vol. VI, American Bee Journal, April No. 1871, Novice gives his reasons for his purchasing twenty-five queens from Mr. Grimm in these words: “and last fall *so many* of our *old* queens failed, that we purchased twenty-five queens from Mr. Grimm to replace them.”

Answer to mistake No. 2: (Extract of letter.)

HAMILTON, ILL., June 7, 1870.

MR. J. M. PRICE,

DEAR SIR:—The queen I sent to you is raised from imported stock and is very prolific. *I guarantee her all right.*

In my letter ordering, I not only asked him to guarantee her safe arrival, but that he guarantee her pure—purely mated and prolific, and referred him to my article “All Abroad,” and told him that if he thought he had a queen that would be satisfactory, after he had read that article, to send her to me C. O. D.

That I did expect him to replace her is proved by my writing to him, informing him of her unproductiveness.

He answered me as follows:

HAMILTON, ILL., Aug. 4, 1870.

MR. J. M. PRICE,

DEAR SIR:—Do not give her up before another season's trial. Yours respectfully,

CHAS. DADANT.

As this was not replacing her, I wrote again. He answered as follows: (Extract.)

HAMILTON, ILL.

MR. JNO. M. PRICE,

DEAR SIR:—As soon as the bees can raise queens I will send one to you next spring.

Yours respectfully,

CHAS. DADANT.

Beekeepers, have I not proved that he did expect to replace her, and did know that he had promised to do so?

I will give you an extract of his advertisement in the Journal at the time he sent her to me.

Advertisement from April to September, 1870: (Extract.)

“The queens will be sent from here safe arrival guaranteed. CHAS. DADANT, April, 1870, 6 mos. Hamilton, Ill.”

In the spring I wrote him of her condition and received not the queens, as promised, but the following letter :

HAMILTON, ILL., April 21, 1871. MR. JNO. M. PRICE,

DEAR SIR:—You did so much fuss about the queen I sent you last spring, that I am very little disposed to let you (*have*) any more queens.

Yours very respectfully, CHAS. DADANT.

Answer to mistake No. 4. His last letter to me before his refusal: (Extract.)

HAMILTON, ILL. “But I think your best way be to get one or two imported queens. CHAS. DADANT.”

Friend Beekeepers:—After reading the above correspondence, and his advertisement, what shall we call his Wilful Voluntary Mistakes? Also under what head shall I class his mode of getting money? But after wronging me out of my money (which is a very small part of the damage that the sending of that worthless queen was to me), is it a sign of an honest dealer to go back of his guarantee on an order, and keep the money that he came into possession of by that guarantee, and after beating me out of my money in that manner? Is it a sign of a gentleman to try and add insult to injury and wrong by his false “Wilful Voluntary Mistakes?”

JOHN M. PRICE.
Buffalo Grove, Iowa, March 10, 1872.

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[From Shuckard's “BRITISH BEES.”]

Bees.

It is very natural that the bees should interest the majority of us, so many agreeable and attractive associations being connected with the name. It is immediately suggestive of spring, sunshine, and flowers,—meadows gaily enamelled, green lanes, thomy downs, and fragrant heaths. It speaks of industry, forethought, and competence,—of well ordered government, and of due but not degrading subordination. The economy of the hive has been compared by our great poet to the polity of a populous kingdom under monarchical government. He says:—

“Therefore doth Heaven divide
The state of man in divers functions,
Setting endeavor in continual motion;
To which is fixed, as an aim or but,
Obedience: for so work the honey bees;
Creatures, that, by a rule in nature, teach
The act of order to a peopled kingdom.
They have a king, and officers of sorts:
Where some, like magistrates, correct at home;
Others, like merchants, venture trade abroad;

Others like soldiers, armed in their stings,
Make boot upon the summer's velvet buds;
Which pillage they, with merry march, bring home
To the tent-royal of their emperor :
Who, envied in his majesty, surveys
The singing masons building roof of gold ;
The civil citizens kneading up the honey ;
The poor mechanic porters crowding in
Their heavy burdens at his narrow gate ;
The sad ey'd justice, with his surly hum,
Delivering o'er to executors pale
The lazy yawning drone."—HENRY V, 1, 2.

Nothing escaped the wonderful vision of this "myriad minded" man, and its pertinent application. This description, although certainly not technically accurate, is a superb broad sketch, and shows how well he was acquainted with the natural history and habits of the domestic bee.

The curiosity bees have attracted from time immemorial, and the wonders of their economy elicited by the observation and study of modern investigators, is but a grateful return for the benefits derived to man from their persevering assiduity and skill. It is the just homage of reason to perfect instinct running closely parallel to its own wonderful attributes. Indeed, so complex are many of the operations of this instinct, as to have induced the surmise of a positive affinity to reason, instead of its being a mere analogy, working blindly and without reflection. The felicity of the adaptation of the hexagonal waxen cells, and the skill of the construction of the comb to their purposes, has occupied the obtruse calculations of profound mathematicians ; and since human ingenuity has devised modes of investigating, unobserved, the various proceedings of the interior of the hive, wonder has grown still greater, and admiration has reached its climax.

The intimate connection of "bees" with nature's elegancies, the flowers, is an association which links them agreeably to our regard, for each suggests the other ; their vivacity and music giving animation and variety to what might otherwise pall by beautiful but inanimate attractions. When we combine with this the services which bees perform in their eager pursuits, our admiration extends beyond them to their great originator, who, by such apparently small means, accomplishes so simply yet completely, a most important object of creation.

That bees were cultivated by man in the earliest conditions of his existence, possibly whilst his yet limited family was still occupying the primitive cradle of the race at Hindoo Koosh, or on the fertile slopes of the Himalayas, or upon the more distant table land or plateau of Thibet, or in the delicious vales of Cashmere, or wherever it might have been, somewhere widely away to the east of the Caspian Sea,—is a very probable supposition. Accident furthered by curiosity, would have early led to the discovery of stores of honey which the assiduity of the bees had hoarded ; its agreeable odor would have induced further search, which would have strengthened the possession by keener observation, and have led in due course to the fixing of them in his immediate vicinity.

To this remote period, possibly not so early as

the discovery of the treasures of the bee, may be assigned also the first domestication of the animals useful to man, many of which are still found in those districts in all their primitive wildness. The discovery and cultivation of the cereal plants will also date from this early age. The domestication of animals has never been satisfactorily explained, but all inquiry seems to point to those regions as the native land, both of them, and of the *graminae* which produce our grain ; for Heinzeleman, Linnaeus' enthusiastic disciple, found there those grasses still growing wild, which have not been found elsewhere in a natural state.

Thus, long before the three great branches of the human race, the Aryan, Shematic, and Turonian, took their divergent courses from the procreative nest which was to populate the earth, they were already endowed from their patrimony with the best gifts nature could present to them ; and they were thus fitted, in their estrangement from their home, with the requirements, which the vicissitudes they might have to contend with in their migrations, most needed. They would eventually have settled into varying conditions, differently modified by time acting conjunctively with climate and position, until in the lapse of years, and the changes the earth has since undergone, the stamp impressed by these causes, which would have been originally evanescent, became indelible. That but one language was originally theirs, the researches of philology distinctly prove, by finding a language still more ancient than its Aryan, Shematic, and Turonian derivatives. From this elder language these all spring, their common origin being deduced from the analogies extant in each. These investigations are confirmed by the Scriptural account "That the whole earth was of one language and of one speech," previous to the Flood, and it describes the first migration as coincident with the subsidence of the waters.

That animals have been domesticated in a very early stage of man's existence, we have distinct proof in many recent geological discoveries, and all these discoveries show the same animals to have been in every instance subjugated ; thus pointing to a primitive and earlier domestication in the region where both were originally produced. That pasture land was provided for the sustenance of those animals, they being chiefly herbivorous, is a necessary conclusion. Thence ensues the fair deduction that *phanerogamous* or flower-bearing plants coexisted, and bees, consequently, and necessarily too—thus participating reciprocal advantages, they receiving from those plants sustenance, and giving them fertility.

Claiming thus this very high antiquity for man's nutritive "bee," which was of far earlier utility to him than the silk worm, whose labor demanded a very advanced condition of skill and civilization, to be made available ; it is perfectly consistent, and indeed needful, to claim the simultaneous existence of all the bees' allies. The earliest Shematic and Aryan records, the Book of Job, the Vedas, the Egyptian sculptures and papyri, as well as the poems of Homer, confirm the early cultivation of bees by man for domestic uses ; and their frequent representa-

tion in the Egyptian hieroglyphics, wherein the bee occurs as the symbol of royalty, clearly shows that their economy, with a monarch at its head, was known ; hive, too, being figured, as Sir Gardner Wilkinson tells us, upon a very ancient tomb at Thebis, is early evidence of its domestication there, and how early even historically, it was brought under the special dominion of mankind. I adduce these particulars, merely to intimate how very early, even in the present condition of the earth, bees were beneficial to mankind, and that, therefore, the connection may have subsisted, as I have previously urged, on the remotest and very primitive ages of the existence of man ; and that imperatively with them, the entire family of man, of which they form a unit only, was also created.

In America, where *apis mellifica* is of European introduction, swarms of these bees, escaping domestication, resume their natural condition, and have pressed forward far into the uncleared wild ; and widely in advance of the conquering colonist, they have taken their abode in the primitive unreclaimed forest. Nor do they remain stationary, but on, still on, with every successive year, spreading in every direction ; and thus surely indicating to the aboriginal red man, the certain, if even slow, approach of civilization, and the consequent necessity of his own protective retreat—a strong instance of the distributive processes of nature. It clearly shows how the wild bees may have similarly migrated in all directions from the centre of their origin. That they are now found at the very *ultima Thule*, so far away from their assumed incunabula, and with such apparent existing obstructions to their distributive process, is a proof, had we no other, that the condition of the earth must have been geographically very different at the period of their beginning, and that vast geological changes have, since then, altered its physical features. Where islands now exist, these must then have formed portions of widely sweeping continents, and seas have been dry land, which have since swept over the same area, insulating irregular portions by the submergence of irregular intervals, and thus have left them in their present condition, with their then existing inhabitants restricted to the circuit they now occupy. That long periods of time must necessarily have elapsed to have effected this by the methods we still see in operation, is no proof that it has not been. Nature, in her large operations, has no regard for the duration of time. Her courses are so sure that they are ever eventually successful ; for as to her, whose permanency is not computable, it matters not what period the process takes ; and she is as indifferent to the seconds of time, whereby man's brevity is spanned, as she is to the wastefulness of her own exuberant resources, knowing that neither is lost in the result at which she reaches ; consuming the one, and scattering broadcast the other, but in unnoticeable infinitesimals, she does it irrespective of the origin, the needs, or the duration of man, who can only watch her irrepressible advances by transmitting from generation to generation the records of his observation ; marking thus by imaginary stations the course of the

incessant stream which carries him upon its surface.

That other bees are found besides social bees, may be new to some of my readers, who will perhaps learn now, for the first time, that collective similarities of organization and habits associate other insects with "the bee," as bees. Although the names of "domestic bee," "honey bee," or "social bee," imply a contradistinction to some other "bee," yet it must have been very long before even the most acute observer could have noticed the peculiarities of structure which constitute other insects "bees," and ally the "wild bees" to the "domestic bee," from the deficiency of artificial means to examine minutely the organization whereby the affinity is clearly proved. This is also further shown in the poverty of our language in vernacular terms to express them distinctively ; for even the name of "wild bees," in as far as it has been applied to any except the "honey bee" in a wildened state, is a usage of modern introduction, and of date subsequent to their examination and appreciation. Our native tongue, in the words "bee," "wasp," "fly," and "ant," compasses all those thousands of different winged and unwinged insects which modern science comprises in two very extensive orders in entomology of the *Hymenoptera* and the *Diptera*,—thus exhibiting how very poor common language is in words to denote distinctive differences in creatures even when the differences are so marked, and the habits so dissimilar, as in the several groups constituting these orders. But progressively extending knowledge, and a more familiar intimacy with insects and their habits, will doubtless, in the course of time, supervene, as old aversions, prejudices, and superstitions wear out, when by the light of instruction we shall gradually arouse to perceive that "His breath has passed that way too," and that, therefore, they all put forth strong claims to the notice and admiration of man.

It is highly improbable that ordinary language will ever find distinctive names to indicate *genera*, and far less *species* ; and although we have some few words which combine large groups, such as "gnats," "flesh flies," "gad flies," "gall flies," "dragon flies," "sand wasps," "bumble bees," &c., &c. ; and, although the small group, which it is my purpose to describe hereafter in all their attractive peculiarities, has had several vernacular denominations applied to them to indicate their most distinctive characteristics, such as "cuckoo bees," "carpenter bees," "mason bees," "carding bees," &c., yet many which are not thus to be distinguished will have to wait long for their special appellation.

The first breathings of spring bring forth the bees. Before the hedgerows and the trees have burst their buds, and expanded their yet delicate green leaves to the strengthening influence of the air, and whilst only here and there the whole blossoms of the black thorn sparkle around, and patches of chickweed spread their bloom in attractive humility on waste bits of ground in corners of fields, they are abroad. Their hum will be heard in some very favorite sunny nook, where the precious primrose spreads forth its delicate pale blossoms, in the modest confidence

of conscious beauty, to catch the eye of the sun, as well as

"Daffodils, that come before the swallow dares,
And take the winds of March with beauty."

The yellow catkins of the sallow, too, are already swarmed around by bees, the latter being our Northern representative of the palm, which heralded "peace to earth and good will to man." The bees thus announce that the business of the year has begun, and that the lethargy of winter is superseded by energetic activity.

The instinctive impulse of the cares of maternity prompt the wild bees to their early assiduity, urging them to their eager quest of these foremost indications of the renewed year. The firstling bees are forthwith at their earnest work of collecting honey and pollen, which, kneaded into paste, are to become both the cradle and the sustenance of their future progeny.

Wherever we investigate wonderful Nature, we observe the most beautiful adaptation and arrangement; everywhere the correlations of structure with function. In confirmation of which I may here briefly notice in anticipation, that the bees are divided into two large groups—the short-tongued and the long-tongued—and it is the short-tongued which are first abroad, the corolla of the first flowers being shallow, and the nectar depositories obvious, an arrangement which facilitates their obtaining the honey already at hand. These bees are also amply furnished, in the clothing of their posterior legs, or otherwise, with the means to convey home the pollen which they vigorously collect, finding it already in superfluous abundance, and which, being borne from flower to flower, impregnates and makes fruitful those plants which require external agents to accomplish their fertility. Thus nature duly provides, by an interchange of offices, for the general good, and by simple, although sometimes obscure means, gives motion and persistency to the wheel within wheel which so exquisitely fulfil her designs, and roll forward, unremittingly, her stupendous fabric.

The way in which bees execute this object and design of nature, and to which they, more evidently than any other insects, are called to the performance, is shown in the implanted instinct which prompts them to seek flowers, knowing, by means of that instinct, that flowers will furnish them with what is needful both for their own sustenance and for that of their descendants. Flowers, to this end, are furnished with the requisite attractive qualifications to allure the bees. Whether their odor or their color be the tempting vehicle, or both conjunctively, it is scarcely possible to say, but that they should hold out special invitation is requisite to the maintenance of their own perpetuity. This, it is supposed, the color of flowers chiefly effects by being visible from a distance. Flowers, within themselves, indicate to the bees visiting them, the presence of nectaria by spots colored differently from their petals. This nectar, gathered by the bees as honey, is secreted by glands or glandulous surfaces, seated upon the organs of fructification; and Nature has also furnished means to protect these depositories of honey for

the bees from the intrusive action of the rain, which might wash the secretion away. To this end it has clothed the corolla with a surface of minute hairs, which effectually secures them from its obtrusive action, and thus displays the importance it attaches to the co-operation of the bees. That bees should vary considerably in size is a further accommodation of Nature to promote the fertilization of flowers, which, in some cases, none but small insects could accomplish. Many plants could not be perpetuated but for the agency of insects, and especially of bees; and it is remarkable that it is chiefly those which require this intervention that have a nectarium and secrete honey. By thus seeking the honey, and obtaining it in a variety of ways, bees accomplish this great object of Nature. It often, also, happens that flowers which even contain within themselves the means of ready fructification, cannot derive it from the pollen of their own anthers, but require that the pollen should be conveyed from the anthers of younger flowers. In some cases the reverse takes place, as, for instance, in the *Euphorbia Cyparissias*, wherein it is the pollen of the older flower which, through the same agency, fertilizes the younger. In those occasional cases where the nectarium of the flower is not perceptible, if the spur of such a flower which usually becomes the depository of the nectar, that has oozed from the capsules secreting it, be too narrow for the entrance of the bee, and even beyond the reach of its long tongue, it contrives to attain its object by biting a hole on the outside, through which it taps the store. The skill of bees in finding the honey, even when it is much withdrawn from notice, is a manifest indication of the prompting instinct which tells them where to seek it, and is a matter of extreme interest to the observer, for the honey marks surely guide them; and where these, as in some flowers, are placed in a circle upon its bosom, they work their way around, lapping the nectar as they go. To facilitate this fecundation of plants, which is Nature's prime object, bees are usually more or less hairy; so that if even they limit themselves to imbibing nectar, they involuntarily fulfil the greater design by conveying the pollen from flower to flower. To many insects, especially flies, some flowers are a fatal attraction, for their viscous secretions often make these insects prisoners, and thus destroy them. To the bees this rarely or never happens, either by reason of their superior strength, or possibly from the instinct which repels them from visiting flowers which exude so clammy a substance. It is probably only to the end of promoting fertilization by the attraction of insects that the structure of those flowers which secrete nectar is exclusively conducive, and which fully and satisfactorily explains the final cause of this organization.

To detect these things it is requisite to observe Nature out of doors—an occupation which has its own rich reward in the health and cheerfulness it promotes—and there to watch patiently and attentively. It is only by unremitting perseverance, diligence and assiduity, that we can hope to explore the interesting habits and pecu-

liar industries of these, although small, yet very attractive insects.

Amongst the early blossoming flowers most in request with the bees, and which therefore seem to be great favorites, we find the chickweed (*Alsine media*), the primrose, and the catkins of the sallow; and these in succession are followed by all the flowers of the spring, summer and autumn. Their greatest favorites would appear to be the *Amentaceæ*, or catkin-bearing shrubs and trees; the willow, hazel, osier, &c. from the male flowers of which they obtain the pollen, and from the female the honey; all the Rosacea, especially the dog-rose, and the Primulaceæ, the Orchidæ, Caryophyllaceæ, Polygoneæ, and the balsamic lilies. Clover is very attractive to them, as are also tares; and the spots on those leaves of the bean which appear before the flower, and exude a sweet secretion; the flowers of all the cabbage tribe. Beneath the shade of the Linden, when in flower, may be heard above one intense hum of thrifty industry. The blossoms of all the fruit trees and shrubs, standard or wall, and all aromatic plants, are highly agreeable to them, such as lavender, lemon-thyme, mignonette, indeed all the *resedas*; also sage, borage, &c.; but to mention separately all the flowers they frequent would be to compile almost a complete flood.

Bees are also endowed with an instinct that teaches them to avoid certain plants that might be dangerous to them. Thus they neither frequent the oleander nor the crown imperial, and they also avoid the *Ranunculaceæ*, on account of some poisonous property; and although the *Melianthus major* drops with honey, it is not sought.

Bees may be further consorted with flowers by the analogy and parallelism of their stages of existence. Thus the egg is equivalent to the seed; the *larva* to the germination and growth; the *pupa* to the bud, and the *imag* to the flower. The flower dies as soon as the seed is fully formed, which is then disseminated by many wonderful contrivances to a propitious soil; and the wild bees die as soon as the store of eggs is wonderfully deposited, according to their several instincts, in fitting receptacles, and provision furnished to sustain the development of the progeny. Thus each secures perpetuity to its species, but individually ceases.

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[For the American Bee Journal.]

Gallup hits Somebody.

MR. EDITOR:—We have the April No. *all right*. The first on the docket that claims our attention, is Dr. Bohrer. He infers that we disagree with Mr. Langstroth, and condemn the two-story Langstroth hive, because we said there was any quantity of worthless hives at Cleveland. The reader will readily see that we did not say that there was no good hive there. *By no means*. Now, Doctor, never again use such a shallow excuse to get in your F. R. Allen hive. Old birds are not often caught with chaff. The next is T. F. Bingham. He is afraid he will have to hear for the next five years about Gal-

lup's hive. Now the reader knows that Mr. B. has a patent hive, and it galls some of those patent hive fellows *terribly* to think that after all the boasting, THE OLD LANGSTROTH PRINCIPLE IS STILL AHEAD.

Some of them would give considerable, if Gallup and the AMERICAN BEE JOURNAL were dead and buried, but it is our sincere desire that the influence of the American Bee Journal may never be less. Now will the reader please take notice that in giving a description of the hive we use, we have no other motive than to illustrate a principle in beekeeping.

We have already forwarded an article illustrating how to use the Langstroth hive on the same principle. We certainly believe we could have obtained the same results from a regular Langstroth spread out horizontally in such a season as the past. I have already cautioned others not to go into the large Gallup hive extensively, but make one or two for trial. We always prefer a good season for getting a large yield of honey.

This buying up extracted honey and feeding to one or two stocks, so as to be able to report an extra large yield per hive, and thus create a demand for a particular hive, is not what Gallup believes in. *We have no hives for sale, and consequently no axe to grind.*

The next is Novice, and oh how we are going to hit him! He says he really likes the Quinby frame or a large one. Now, Novice, warrant us just such seasons as the past two and we are with you; but how is it in a cool wet season, when our stocks are only medium sized. All of the honey gathered is thin and watery and needs a great deal of evaporation, and we have no extractors, but are compelled to use a hive in which we can condense the bees into a small compass or compact mass; or our honey is sealed up before it is half evaporated, and the consequence is, our bees all die over winter from dysentery. We have paid dearly for our knowledge on this subject. We have seen a number of such seasons in our northern climate. We have always said that a larger frame would be preferable farther south, at least it is our opinion that it would be preferable. We guess you mixed that a trifle, when you said our bees were brooding sticks. The fact is in this cool backward spring, our bees are in the best possible shape for keeping up the animal heat for developing brood, and there is no sticks in the centre of that brood. After our stocks become strong and numerous, and the weather becomes warm or hot, then our sticks or division in the centre of the frame is not one particle of detriment in practice, although it appear to be in theory.

To-day, April 15th, 1872, the spring has come in cold and backward. No natural pollen yet, and no forage from natural sources. Now you know some of our reasons for small combs.

ELISHA GALLUP.
Orchard, Mitchell Co., Iowa.

•••
Dzierzon says, "the first day the bees fly in spring is a day of great jubilee for me;" I trust it is for the many readers of the Journal. HULLMAN.

THE AMERICAN BEE JOURNAL.

Washington, June, 1872.

All communications and letters of business should be addressed to

GEO. S. WAGNER,
Office of the American Bee Journal,
WASHINGTON, D. C.

With this number closes the 7th volume of the American Bee Journal. We think this a fitting occasion to return our thanks to those kind friends who have stood by us, and so efficiently aided us in conducting the Journal since the sudden death of its late editor. Called so unexpectedly to assume the charge of the Journal, and burdened with many other weighty duties, we would have been unable without their aid to conduct it.

The Journal will in the future pursue the same independent course that it has in the past, seeking the true development and improvement of bee-culture in this country; and will continue unhesitatingly to expose whatever it believes to be fraud and deception.

We doubt whether any class of interests have suffered more in this country than bee-culture, from the intrigues and deceptions of designing persons, and the only way to defeat the plans of these persons, is exposure. It is disagreeable, and at times painful, but is nevertheless a positive duty of a journalist who desires the true and complete development of the cause he advocates. Mere personal controversies we deprecate, and shall endeavor to close the columns of the Journal to all who seek to engage in them.

Although the beekeepers of this country have during the past winter sustained heavy losses, it is gratifying to know that few intend to abandon bee-culture. The great majority are going to try again, thinking that they have discovered the cause of their troubles. We trust they have, and will not again be called upon to meet such heavy losses.

The many friends of Dr. Bohrer will be pained to learn of the calamity with which he met when just about leaving for Europe, and which has resulted in his abandoning his trip, and will join with us in hoping that his new venture will prove more successful.

Rev. Mr. Langstroth, we are happy to inform the readers of the American Bee Journal, has safely reached his home in Oxford, Ohio. His foot is healing rapidly, and we hope soon to hear of his being able to throw aside his crutches, and have again the full use of his foot.

The locust trees in this city are done blossoming. While in blossom, they were alive with bees. The linden is just coming into blossom.

A prompt renewal of subscriptions and payment of arrearage, would be of great aid to us at present.

In answer to many inquiries, we would say, that we are unable to furnish complete sets of the present volume of the Journal, the supply of the July and January numbers being exhausted. Having moved from our former residence, we have been compelled to pack up all the back numbers of the Journal, but shall keep a list of those desiring them, and will send them before long.

We will, during the coming month, send bills to all in arrearages, and shall expect a prompt settlement. All subscriptions must be paid in advance; no Journals will be sent after the expiration of the time for which the subscription has been paid.

[For the American Bee Journal.]

Chautauqua Beekeepers' Association.

The 5th semi-annual meeting of the Chautauqua Beekeepers' Association met at the American House, Jamestown, N. Y., Tuesday afternoon. J. M. Beebe, President. Notwithstanding the very unfavorable weather, and the almost impassable condition of the roads, a good number of beekeepers were in attendance. The first subject for discussion was wintering bees. As many persons had lost a large portion of their stock during the past winter, they were naturally anxious to learn the cause, and ascertain the proper remedy.

Mr. Beebe stated that he had lost two weak swarms only; had thirty swarms last fall. He had constructed a house to winter his bees in, costing him \$110, but he preferred to winter them upon their summer stands. He fed stocks deficient in stores; thought all should have 25 lbs. each to be safe, although the less honey they consume the better. His feed is sugar syrup; to 10 lbs. of coffee sugar add 5 lbs. of water, and let it boil five minutes.

Mr. Cook started with 70 swarms and lost one-tenth. The winter he regarded as a very hard one, owing to the excessive cold, intermingled with frequent warm spells. He fed the same as Mr. Beebe, only he mixed honey with the syrup.

He gave upward ventilation. The most of the swarms he lost, he attributed to honey dew, causing dysentery. There is usually about six weeks of honey season proper, but only four last year. He considered last season as the worst for the beekeepers he ever knew, *but even then the investment paid.*

Mr. Philips lost 44 swarms out of fifty. He wintered a part out of doors, a part in the cellar, and the rest in the kitchen. He lost the most in the kitchen. Gave ample ventilation, had no dysentery or foul brood in his young swarms. All the stocks that died left an abundance of honey. In reply to a question as to the quality of honey in California, where he had resided for many years, he stated that it was as white and

nice as here, and that the white mustard was to honey producers there what the clover is here.

Mr. Joseph Cook lost ten swarms out of 44. He considered the past winter a hard one for the bees. This was the first lost in wintering he had met with, but he attributed it in great measure to his failure to properly care for them.

Mr. Henry Whilford lost eight swarms out of 29. Gave too much upward ventilation. He thought it a good plan to put something inside the hive for the bees to fall on, so they could return to the cluster. In response to a question, he stated that combs moulded in this climate long before the bees perished. He favored wintering bees in a house built for the purpose. The winter was a severe one for beekeepers.

Mr. Beebe stated that he had obtained 216 lbs. of box honey, and a new swarm from one old one, in a single season. He offered to wager that he could in any season make *more net profit from fifty swarms of bees, than could be made in the same season from thirty cows.* He favored Italians to the native black bees. He preferred artificial swarming where increases of stock was desired. Thought natural swarms produced the most honey.

Mr. Campbell had taken 104 lbs. from one swarm, leaving them enough for winter.

Mr. Grout obtained 35 lbs. a week from each hive from each swarm by using the mel-extractor.

Mr. E. H. Jenner had invested \$75 in bees, but had never realized \$5 worth of honey. Used the box hive, but should do so no longer. In reply to a question, Mr. Beebe said he would prefer to transfer swarms now, or else wait till 21 days after swarming, because there was less brood at these two seasons. If now, make the transfer in a warm room. There was considerable interest in improved hives, several leading kinds were represented. The Beebe hive was unanimously considered to be the very best hive now before the public. The past winter had firmly established the fact, that it was unequalled for safe wintering bees upon their summer stands. The simple yet efficient arrangement of the comb frames received commendation. Cheapness of construction, perfect adaptation to the wants of the beekeepers, combined with complete control secured over the bees are a few of the superior merits of the bee hive.

After listening with interest to an address by Mr. Albert M. Cook on the History and Use of the Honey Bee, the association adjourned to meet at Mayville, Tuesday, September 3d, 1872.

HERBERT A. BURCH.

[For the American Bee Journal.]

Dr. Bohrer's Trip to Europe.

MR. EDITOR.—Inasmuch as it was announced in the columns of your Journal for April, that I was going to Italy for the purpose of importing Italian queens, and as it is now evident I cannot go, I deem it but justice to such as contemplated obtaining imported queens through me, as well as to myself, to explain why I am not going this season.

On the morning of the 13th of the present month I was about to complete my arrangements for the trip, when the cry of fire attracted my attention in the direction of my dwelling. It was on fire, and was, together with much of my household goods, consumed. This, of course, turned my family into the street, and compelled me to remain at home and rebuild. But if the beekeepers of the country desire it, and will send me their orders by the time the North American Beekeepers' Association meets at Indianapolis, in December next, I will start to Europe about the first of April, 1873, so as to get back to this country by the first of June. I think I can deliver the queens in New York in good order, and send them from there to the end of their journey for \$12 each, which is much lower than imported queens usually cost, as they are badly packed, kept long on the route, and are roughly handled, owing to which a large majority of them perish on the way. Aside from this, many of them fall far below the recognized standard of purity, and consequently cannot give breeders or their patrons satisfaction. These difficulties, which are so exceedingly annoying to beekeepers, I propose to remedy, if it is possible to do so, by selecting foreign queens in person, and taking charge of them on their journey as far as New York, at which point they will not be detained but a few hours, as they will be so packed as to be forwarded to their destination without repacking, but will remain in the original packages. The reason why I wish to have the matter determined by the 10th of December is, that it may be announced, and all rest assured that the trip will be made. I wish at least one hundred orders.

G. BOHRER.

Alexandria, Ind., April 21, 1872.

I hope to get up a club for your paper, and the above names are of parties who will be likely to want it. Our county is quite newly settled, but my own and my neighbor's bees did well last season, and I think there is a growing interest in the culture which I should like to see encouraged.

I sowed twelve acres of alsike this spring, and though the old fogies' cry "can't raise it" has been sounded in my ears on all sides, I have the satisfaction of seeing a good stand and the weather most favorable for its growth. I have no doubt that with the addition of this pasture to that of the wild flowers they will store plenty of honey.

N. H. S.

* * * West Point, Neb., May 13, 1872.

[For the American Bee Journal.]

I promised to report this spring how my bees wintered. It nearly makes me sick to think of the fatality of the past winter among bees in this country. Out of forty-seven strong stocks and one weak one I have but ten left, and some of them very weak. Bee cholera the cause. But I do not feel like giving it up yet, so I have dought some more and am going to try again, and do what I can this season in making up my loss. * * * I was truly sorry to hear of the death of our editor. JONATHAN SMITH.

Willow Branch, Ind., April 24, 1872.

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VOL. VII.—NO. 1.

JULY, 1871.

EDITED

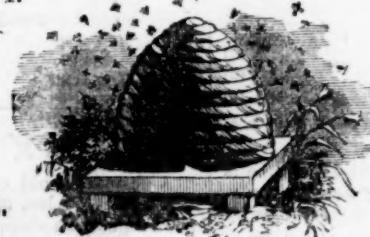
BY

SAMUEL WAGNER.

PUBLISHED

MONTHLY,

WASHINGTON, D.C.



AMERICAN BEE JOURNAL

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ITALIAN QUEENS.

During the coming season, I shall sell queens at the following prices:—

For one queen.....	\$2 50
For three queens.....	7 00
For five queens.....	10 00
For thirteen queens.....	25 00

Ten queens and a Peabody Honey Extractor sent for \$32.00.

All queens sent by mail, when the distance is not too great. Purity and safe arrival guaranteed. Send money in registered letter, or by post-office money order on Salem P. O., Mass.

H. ALLEY,

Wenham,

June, 1861.—tf.

Essex Co., Mass.

NOVICE'S ADVERTISEMENT.

Kind reader, this is the advertising column, and we too have something to sell, and having paid for the privilege of holding forth its merits, we crave your attention.

NOVICE'S HONEY KNIFE

is made of fine steel and tempered, sharp on both edges, has a neat and finely finished handle, and is sufficiently good looking and serviceable generally, that we have not hesitated to have our name stamped thereon.

Price by Mail.....\$1 25
" Express.....1 00
or for half a dozen.....5 00

As they are rather heavy, they had better be expressed, and by neighbors sending together for half a dozen, the expense is but little.

Liberal rates to dealers by the quantity.

We can also furnish Peabody's Melextractors at his prices.

Orders may be sent here, or to B. H. Stair & Co., 115 Ontario street, Cleveland, Ohio.

Address,

A. I. ROOT & CO.,

June, 1871.—tf.

Medina, Ohio.

REMITTANCES RECEIVED.

A. J. Smith, M. D., \$2; J. G. Roberts, \$2; J. T. Hobbs, \$2; H. H. Brown, \$1; B. Lacey, \$2; J. Meyers, \$2; J. W. Wampler, \$2; G. W. Smith, \$2; F. Moliter, \$2; S. Folsom, \$2; E. E. Brown, \$1; E. T. Walker, \$2; J. B. Gray, \$2; C. D. Orton, \$2; W. Wilson, \$2; A. M. Van Cleef, \$2; W. C. Bunnel, \$2; Dr. E. Parmley, \$2; J. Britts, \$2; F. W. Stilar斯基, \$2; S. Keagy, \$2; J. L. Hubbard, \$1; L. C. Pollard, \$2; Rev. J. R. Medley, \$2; J. F. Brown, \$2; C. E. Cox, \$2; Dr. J. W. Greene, \$4; H. Prindle, \$2; J. G. Field, \$2; D. S. Heffron, \$2; D. C. Wells, \$2; H. W. Mechling, \$2; J. R. Hunter, \$2; J. Rooker, \$2; J. Estel, \$2; J. W. Conklin, \$2; Dr. C. Brumme, \$2; M. Lynch, \$2; R. Buxton, \$2; J. F. Long, \$2; C. G. Dick, \$2; Mrs. A. P. Moore, \$2; D. M. Worthington, \$2; W. Mc Adams, \$2; G. M. Adams, \$3; Dr. A. V. Conklin, \$2; H. S. See, \$2; J. M. Stephenson, \$2; J. Fencil, \$2; L. Burdick, \$2; A. Dunlap, \$2; A. E. Sample, \$5; S. L. Selby, \$2; P. S. Kimble, \$2; C. Snyder, \$2; T. W. Leonard, \$2; J. E. Pond, Jr., \$2; Dr. J. W. Hunter, \$2; N. Vogeler, \$2; G. Kropf, \$2; J. Youngblood, \$2; M. L. Williams, \$2; G. S. Silsby, \$2; A. J. Lobdell, \$2; C. S. White, \$2; J. W. Fisher, \$2; Mrs. W. Harris, \$2; S. Bennett, \$2; J. S. Thompson, \$2; P. J. Zant, \$2; J. W. Blake, \$2; L. Prouty, \$2; W. Burr, \$2; W. B. Cox, 50 cts.; W. Thornton, \$2; C. F. Maris, \$2; M. Hettel, \$2; J. Williams, \$2; Miss F. McAllister, \$1; W. T. Topson, \$2; W. Lang, \$2; B. F. Falkner, \$2; W. Ferguson, \$2; M. J. Rinebolt, \$2; M. J. Spitzer, \$2; A. B. M' Clelland, \$2; W. L. Reid, \$2; E. Wagner, \$2; B. Zimmerman, \$2; S. Cunningham, \$2; L. Spitzer, \$2; G. Gase, \$2; L. F. Smith, \$2; J. F. Swinston, \$2; Dr. E. H. Grant, \$2; F. M. Milliken, \$2; J. Winfield, \$2; J. F. Tillinghast, \$2; A. Cooperider, \$2; M. Tambling, \$1; S. A. Moore, \$1; P. H. Benedict, \$2; T. L. Sydenstricker, \$2; J. M. Sydenstricker, \$2; Dr. C. N. Austin, \$2; H. Handley, \$2; H. White, \$2; D. A. Jones, \$5; O. Perry, \$1; J. P. Moore, \$2; J. Filmore, \$2; O. T. Stockman, \$2; H. O. Heuslis, \$2; M. C. Heston, \$2; Dr. H. Chaffee, \$2; T. H. Spencer, \$2.

ITALIAN QUEENS.

IMPORTED AND HOMEBRED.

Send for circular,

E. J. PECK,

June, 1871.—3ms.

Linden, N. J.

HONEY WANTED.

A few tons old crop at once, box, broken or extracted. Also, any quantity of new crop, as soon as can be shipped.

C. O. PERRINE,

Chicago, Ill., or

June, 1871.

Philadelphia, Pa.

ITALIAN BEES.

Full colonies of pure Italian Bees and Queens for sale. Circulars sent free. Address,

G. BOHRER,

March, 1871. Alexandria, Madison Co., Ind.

ITALIAN BEES.

Full stocks and Queen Bees of undoubted purity, for sale throughout the season, at very low figures. Queens sent by mail. Send ten cents and get receipt for making "Stimulative Bee Feed," to be fed in the hive. Circulars free. Address,

T. G. McGAW,

Lock box 64,

March, 1871, 6mos. Monmouth, Warren Co., Ill.

Italian Queen Bees.

I shall breed ITALIAN QUEEN BEES for sale the coming season, from Imported Mothers of undoubted purity. My patrons may rest assured of being honorably dealt with. Orders solicited. Send for circular.

WM. W. CAREY,

Colerain,

April, 1871.—5ms. Franklin Co., Mass.

VOL. VII.—NO. 12.

JUNE, 1872.

EDITED

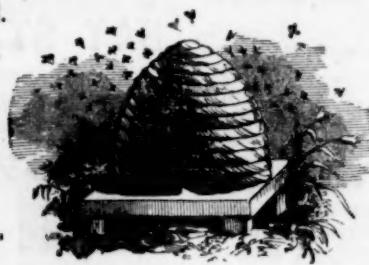
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AMERICAN BEE JOURNAL

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TERMS OF ADVERTISING. FOR 1872.

<i>Ordinary advertisements.</i>		<i>per line.</i>
First insertion.....	(less than 5 lines brevier \$1.00)	15 cts.
Second do	(" " " " " 50 cts)	10 "
Third and subsequent (" " " " " 25 ")	5 "
Special notices.....		20 "
Unusual display	30 per cent extra.	

HONEY JARS.

I shall have this season a full supply of one and two lb. "square" Honey Jars. They are an improvement on last year's Jars, with the emblem of a bee-hive on, and the mark 1 lb. Pure Honey and 2 lbs. Pure Honey, respectively. I will sell these Jars at

\$7.00 per gross for 1 lb. Jars.

9.50 " " " 2 lb. "

In lots of 10 gross or more at \$6.50 and \$9.00 per gross delivered at depot. They are packed $\frac{1}{2}$ gross in a box.

These prices will be subject to any advance manufacturers may put on, which advance is very probable. Buyers should therefore order early. I can also furnish the bee-keeping fraternity with Corks and Tinfoil Caps and neat labels to suit the Jars. Labels have proper space left for the producer to put his address on.

I am selling Corks at 75c. per gross.

Self-sealing one quart Fruit Jars, holding 3 lbs. of honey, I offer at \$18.00 per gross.

Tinfoil Caps \$1.20 " "

Labels \$1.25 " "

CHAS. F. MUTH,

976 & 978 Central Avenue,

April, 1872.—4 mos. Cincinnati, Ohio.

PROGRESSIVE BEE CULTURE

Is the title of a little book that explains all the mysteries of the bee hive. Price 25 cents, by mail.

THE "NEW IDEA" BEE HIVE, doubles the yield of honey. It controls swarming, is easy of access, and can be handled by a woman or an invalid.—With a view to its general introduction I am selling county and small territorial rights at half price, and offering other unusual inducements.

D. L. ADAIR,

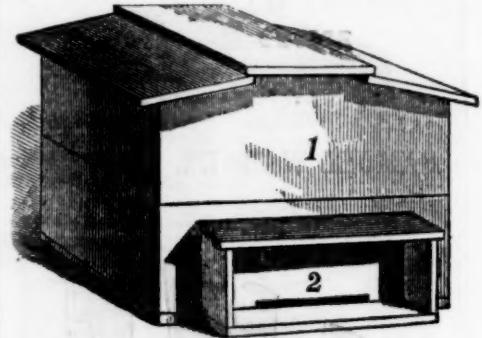
Hawesville, Hancock Co., Ky.

May, 1872—2mos.

REMITTANCES RECEIVED.

D. C. Tenny, \$2; Moses Bailey, \$2; J. R. McClure, \$1.50; W. Smalley, \$2; H. A. Simmons, \$2; N. G. Perry, \$2; J. B. Melvin, \$1; James Pickett, \$6; H. L. Boynton, \$2; Calvin Cutler, \$1; F. Schliete, \$1; John Walton, 4.95; Amos Goff, \$1; Alvis Hagenwood, \$2; D. Bokaw, \$2; F. Griffith, \$2; W. P. Henderson, \$2; E. C. Harrington, \$2; Mrs. M. G. Worth, \$2; J. J. Snyder, \$2; H. B. Rolfe, \$2; J. A. Maxwell, \$2; Wm. A. Sweet, \$2; James Nixon, \$2; C. C. Flagg, 50 cts.; D. H. Ide, \$1; Henry Bosshard, 50 cts.; Miles G. Grigsley, \$2; J. N. Grigsley, \$2; J. B. R. Sherrick, \$2; S. Folsom, \$2; W. A. Byrd, \$1; N. Smith & Co., \$2; D. A. Brockway, \$2; G. Smith, \$2; H. Clawson, \$2; D. H. Davis, \$2; M. Wampler & Co., \$2; W. Batchelder, \$1; Chas. A. Sargent, \$2; W. C. Schenck, \$2; T. J. Cornelius, \$1.50; Gilbert Thrasher, \$2; E. K. Gird, \$1.25; W. Perry, \$2; E. C. Jobe, \$2; J. Melbourn, \$2; J. H. Morton, \$2; J. F. Pappmier, \$2; C. E. Hammond, \$2; B. J. Talbot, \$1.50; A. Pontious, \$2; D. W. Stuarts, \$1; A. Grimm, \$2; J. B. Townly, \$2; J. L. Towns, \$1.80; W. Wilson, \$2; Samuel Wright, \$2; S. H. Mohler, \$2; F. H. Harkins, \$2; J. M. Mohler, \$2; Geo. T. Wheeler, \$10; R. Symington, \$2; A. M. Gates, \$2; L. A. Richardson, \$2; J. H. Criddle, \$2; C. L. Young, \$1; D. Edwards, \$2; Rachel Heald, \$2; A. McCreary, \$2; J. Blair, \$2; W. Lamprecht, \$2.

H. ALLEY'S BAY STATE BEE HIVE



Some of the best beekeepers of the country use them. All beekeepers should try them. Price reduced. Read what correspondents say of the Bay State Hive :

"I have one swarm in your Bay State Hive, that I have taken 110 lbs. of honey from up to July 1st. They are now filling six five pound boxes. It goes ahead of all other hives. I am so well pleased with it, that I shall adopt it."

GEO. L. GAST,
Le Clair, Scott Co., Iowa,

"I have several different kinds of hives in use, but yours gave me more honey than any other."

RUFUS STICKNEY,
East Templeton, Mass.

"Your Bay State Hive is trumps. It beats all the rest I have."

E. C. KEARNES,
Lewistown, Pa.

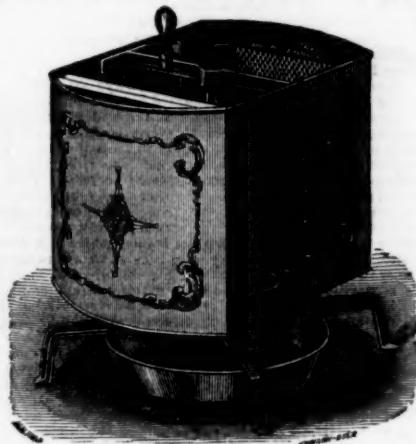
"I think Alley's hive the best ever invented for obtaining surplus honey. I constructed two hives last season as an experiment, similar to Mr. Alley's. One of them gave me 66 lbs. of surplus honey."

GEO. CORK,
Canada.

For a full description, prices, &c., send stamp, for my new circular.

H. ALLEY,
Jan. 1870—tf. Wenham, Essex Co., Mass.

THE PEABODY HONEY-EXTRACTOR



(Judging from the many flattering testimonials we have received from our patrons) is still taking the lead among the most prominent bee-keepers of the country. Having permanently located at Bloomington, our facilities for shipping to all parts of the country are much better than formerly. Orders are already coming in larger than ever, and those who wish to secure a Machine for the coming season would do well to send early, as we may not be able to supply the demand. Send for our new Circular for 1872, and see what beekeepers say of our Machine.

Price of single Machine and two Knives, \$15 00
Single Knife, by Express, 1 00

" " " Mail, prepaid, 1 25

Address, J. L. PEABODY & CO.,
Bloomington, Ill.

N. B. We have agencies in different parts of the country, and those ordering from a distance can have their Machines sent from the nearest point.



QUEENS! QUEENS! QUEENS!

Those wishing good early prolific Italian Queens would do well to send for my Circular. Prices low. Satisfaction guaranteed.

Address, GORDON BOUGHTON,
Ap., 1872—6 mos. Iliopolis, Sangamon Co.,
Illinois.

PROGRESSIVE BEE-CULTURE.

I will have ready 1st of April, a pamphlet with the above title. It explains all the mysteries of Bee-keeping on a new natural theory, never before published. Price, by mail, 20 cents.

The Annals of Bee-Culture for 1871-2 will be issued about the same time. Price, 50 cents.

D. L. ADAIR,
Ap., 1872—2 mos. Hawesville, Kentucky.

ITALIAN QUEEN BEES.

I expect to rear, for sale, this season, a limited number of

Choice Italian Queens,

bred when desired by purchasers, exclusively from imported queens, and fertilized if possible by drones from imported mothers.

The price of such queens, when fully tested, by examining their hatching brood in large nuclei or full stocks, will be ten dollars. If sent before they are tested, five dollars.

For further particulars, send for circular.

L. L. LANGSTROTH,
Feb. 1872—tf Oxford, Butler Co., Ohio.

BEAUTIFUL ITALIAN QUEEN BEES.

AT THE GYMNASIUM CANTONAL OF TESSIN, IN BELLINZONA, SWITZERLAND.

1. For an Italian Queen Bee, accompanied by a sufficient number of workers, and provision for a thirty days' journey packing included, and freight to Bremen, Hamburg, Havre, or Ostend, prepaid, if sent during April, 11 francs; during May, 10 francs; during June, 9 francs; during July, 8 francs; during August, 7 francs; during September, 6 francs, and during October, 5 francs.

2. Queens will be sent only in parcels of four, six, eight, twelve, or twenty-four.

3. All queens sent, to go at the risk of the party ordering them. Good and careful packing guaranteed.

4. The cash must accompany every order, or it will not be noticed. Address,

J. A. CHEVALLEY,
Professor at the Gymnasium Cantonal
in Bellinzona, Canton of Tessin, Switzerland.
Jan'y, 1872—tf

APIARIAN SUPPLIES.

Send for our circular of Queens, Full Colonies of Bees, Hives, Bee Books, Bee Veils, Queen Cages, &c., &c.

We furnish Hives of all the leading improved varieties, with or without bees.

Pure and Prolific Queens at reasonable rates. Circulars free. Address,

OWEN & LADD,
Brentwood, Williamson Co.,
Feb., 1872—tf. Tenn.

CAUTION TO BEE-KEEPERS.

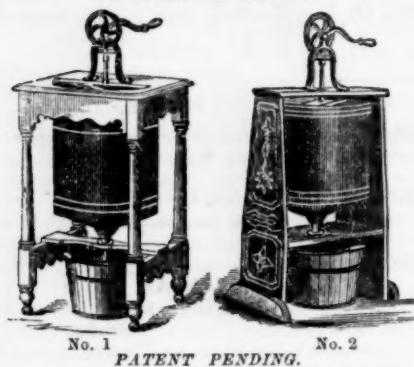
All persons using the Triangular Comb Guide, or "bevelled edge," in Langstroth hives, are cautioned against paying K. P. Kidder, or Agents, for such use. At our request, he has sued us, and we believe the Courts will soon decide that the said Guide is PUBLIC PROPERTY, and that we are not infringing his rights in the Clark Patent.

L. L. LANGSTROTH,
Oxford, Ohio.

R. C. OTIS,
Chicago, April 20th, 1871. Kenosha, Wisconsin

Get the Latest! Get the Best!

**IMPROVED
GEARED ROTARY
HONEY EXTRACTOR,
FOR 1872.**



No. 1 No. 2
PATENT PENDING.

This honey extractor is made of the heaviest tin, neatly painted and japanned; is light (35 lbs.) and convenient to handle; is easily cleaned and protected from bees, flies and dust; and will extract from 500 to 1,000 pounds of honey per day without breaking or injuring the combs.

We could give a great many testimonials from eminent Beekeepers, viz.:

L. L. LANGSTROTH, Oxford, O.

A. F. MOON, Indianapolis, Ind. (Editor of National Bee Journal.)

H. NESBIT, Cynthiana, Ky.

H. A. KING, N. Y. City. (Editor Beekeepers' Journal.)

E. PARMLY, N. Y. City.

DR. G. BOHRER, Alexandria, Ind.

E. GALLUP, Orchard, Iowa.

T. B. HAMLIN, Edgefield Junction, Tenn.

W. H. FURMAN, Cedar Rapids, Iowa.

D. BURKBANK, Lexington, Ky.

AMOS GOFF, Vernon, Wis.

RICHARD PETERS, Atlanta, Ga.

RICHARD RUDOCK, Orono, Ont., Can. W.

A. SALLISBURY, Camargo, Ill.

J. FERGUSON, Cooper, Mich.

M. H. MILLER, Louisiana, Mo.

R. PORTER, Rochester, Minn.

C. T. F. GRAVENHORST, Brunswick, Prussia, Europe.

And many others; but this is sufficient to show who are using our machines.

Our Extractor has been improved for 1872. We make them in two forms, as you will see by the cuts, both are equally good. The working of the machine is exactly the same; only different in the wood frame. It will take in any size comb up to 12 x 19 inches (standard size), and will take the honey from small combs or pieces just as well as large ones. Larger machines will be made on special order.

These Machines are securely slatted or boxed and can be shipped any distance by Express or Freight (Freight is the cheaper).

PRICE LIST.

One No. 1 Extractor, including 2 Honey Knives, for uncapping	\$18 00
One No. 2 Extractor, including 2 Knives	15 00
Single Knife, without machine, by Express	1 00
Single Knife, by Mail, post paid	1 25

Send for illustrated circular and price list for Honey and Wax Extractors, Italian Queens and Safety Queen Cages, and address all orders to

GRAY & WINDER,

May, '72—tf. SOLE MANUFACTURERS,
132 W. Fourth St. Cincinnati, O.

**NOVICE'S IMPROVEMENT IN
Frames for Movable Comb Hives!**

In using Movable Comb Bee Hives, two principal difficulties have presented themselves, which we propose to obviate by the accompanying invention.

First.—In opening all hives the operation of prying the combs loose before removing them is always attended, (especially in hives the bees have occupied several seasons) with more or less annoyance to both bees and operator, as the bees disliking any jar or shake are much more likely to resent the loosening process than the removal of the frames themselves.

In replacing the frames also, extreme care must be taken that the ends of the frames when replaced in the rabbets in the side of the hive, be not allowed to crush any bees, as they are very quick to resent any such carelessness; and those who use the Extractor, well know the strain on the nerves and muscles in being obliged to keep the frame, while in a stooping position, just touching the young bees sufficient to induce them to crowd out of the way.

Both removing the frames and replacing them consume much time just when the apianist is receiving his surplus honey, and when it is extremely difficult to find any person sufficiently skilled to assist him in his labors.

Second:—Movable frames as they are commonly made, with nails, are not secure, so that sometimes when the bees are shaken off preparatory to extracting the honey, the nails draw out and bees, honey, brood and possibly the queen, at her imminent peril are rolling in the dirt. It is hard to imagine a result more aggravating when the Beekeeper is pressed for time as he almost always is in hot weather, when such accidents are most likely to happen.

In case the frame does not break, a racking of the corners may cause the heavily filled comb to break and drop out as before. And to obviate this, three-cornered blocks have been put in the lower corners and the frames are made of lumber very much thicker than would be necessary were not the difficulty of nailing the corners securely, to be considered.

Very few mechanics seem to be equal to the task of making frames perfectly square, and as a consequence the distance from the sides of the hive must be such as to allow for imperfection, and then we have the evils of the opposite extreme; the space is so great that small combs are built therein which must be broken loose before removing the frames.

Our Improvements are:

First:—Instead of the top bar being prolonged for the upper part of the frame, thin metal projections at the upper corners are made to rest on a strip of metal placed with edge upward in the rabbet in the hive, thus supporting the frame in such a way that the bees find it impossible to glue them fast with propolis as they do the wooden bars, and also that they may not be crushed in replacing the frame in the hive.

Second:—The thin metal projections are made of a piece of sheet metal formed by machinery in such a way that the corners of the frames are held perfectly secure at an exact right angle braced and strengthened more that nails or rabbeting can possibly make them, and ferruled as it were, so the wood cannot split.

Third:—The manner of attaching the device is such that they can be applied to almost any movable comb frame even when filled with comb and covered with bees, as no nails or screws are used and the corners are so secure when once attached, that removal is almost impossible.

Fourth:—A stronger frame can be made of much thinner strips than those commonly used. The space saved can then be used for storing honey or brood, and as the frames hang perfectly true both ways, all the room in the hive may be used, except just enough for a bee to pass between the frame and outer walls of the hive.

A sample pair to test them on one frame sent by mail on receipt of 10 cents.

Corners and supporters for top of frame \$1.25 per 100.

Bottom Corners 75 cents per 100.

Metal clasps for transferring, 25 cents per 100.

NOVICE'S HONEY KNIFE

Is made of fine steel and tempered, sharp on both edges, has a neat and finely finished handle, and is sufficiently good looking and serviceable generally, that we have not hesitated to have our name stamped thereon.

Price by Mail..... \$1.25

" Express 1.00

or for half a dozen 5.00

As they are rather heavy, they had better be expressed, and by neighbors sending together for a half a dozen, the expense is but little.

Liberal rates to dealers by the quantity.

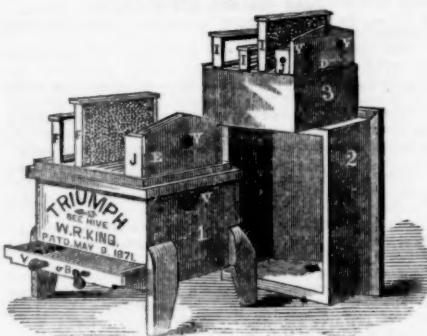
We can also furnish Peabody's Mel-extractors at his prices. Orders may be sent here, or to B. H. Stair & Co., 115 Ontario street, Cleveland, Ohio.

Address, **A. I. ROOT & CO.,**
Medina, Ohio.

May 20, 1872.

"Triumph" Bee Hive.

SECTIONAL VIEW.



After two years' practical experience with the Triumph Movable Comb Hive, I feel fully warranted in recommending it to the beekeeping public as having no superior in the country. It is the best winter hive ever invented, and equally as good for summer; for it is the only well ventilated hive ever offered to the public. I will give any practical beekeeper the privilege of trying one of the Triumph hives before buying the right.

State rights sold low for cash, or will be traded for either real or personal property.

County rights, from \$40 to \$400.

Township rights, from \$10 to \$50.

Farm rights, \$5.

One sample hive, with farm right, \$10.

One hive to those wishing to try it, \$5.

Send for Circular and Price List.

ITALIAN BEES AND PURE TESTED QUEENS.

For full colonies, in Triumph hive,	\$20 00
For full colonies, in Triumph hive, with right.	25 00
For single tested queen, in May,	6 00
For six tested queens, in May,	30 00
For twelve tested queens, in May,	50 00
For single tested queen, in June and July,	5 00
For six tested queens, in June and July,	25 00
For twelve tested queens, in June and July,	40 00
For single tested queen, in Aug. and Sept.,	4 00
For six tested queens, in Aug. and Sept.,	20 00
For twelve tested queens, in Aug. and Sept.,	36 00

All from the latest importations. Purity and safe arrival guaranteed. I also give a premium to each customer. Address,

WILL. R. KING,
Franklin,
Feb., 1872—4mos. Simpson Co., Ky.

ADVERTISEMENT.

JERRARD'S NON-PATENTED IMPROVEMENTS.

The most perfect working movable comb frame arrangement ever invented; on a new principle, and adopted to any style or form of hive now in use. Send for circular.

Address, G. W. P. JERRARD,
Feb., 1872—tf. Levant, Maine.

W. C. CONDIT,

Howard Springs, Tennessee,

Having been engaged for nine years in raising Italian Bees in the States of Iowa, Missouri, Ohio and Tennessee, and during this time using various patent hives, of the best in the country, and constantly studying how to improve them, has now constructed one, and used it two years, which, for *simplicity, cheapness* and *utility*, he thinks is equal to the very best. Any farmer can make it by following *printed directions*, which will be sent for 25 cents. See article in American Bee Journal, Nov., 1871, headed "IMPROVED BEE HIVES."

Nov., 1871.—tf.

ALSIKE CLOVER SEED.

A choice sample at 25 cents per pound (American currency), bags free. No smaller quantities than ten pounds sent out. Cash must accompany all orders. No seed sent C. O. D. All letters to Canada must be prepaid with six cents.

Address,

H. H. THOMAS,
Brooklin, Ontario,
Mar.—2 mo. Canada.

ITALIAN QUEEN BEES.

Bred from imported stock. Queens sent by mail. Purity and safe arrival guaranteed. Instructions for making and operating a "Queen Nursery," with one sample cage by mail, for \$1.25. Rafrachis Odorators used in introducing queens, sent by mail for 60 cents. For circular, address,

T. G. McGAW,
Lock Box 64,
Mar.—6 mo. Monmouth, Warren Co., Ill.

BEE HIVES.

I will offer for sale this season a limited number of Langstroth hives, made of good pine lumber and well painted. Those wishing hives will please order early. All orders accompanied with cash will receive prompt attention. Price single hive, \$4.00, by the dozen, \$3.50, including Mr. L.'s trade mark in his territory.

H. L. AVERY,
Mar. '72—tf. Strongville, Ohio.

HONEY WANTED.

HIVES AND BOXES FOR SALE.

We have made arrangements for the sale of a large amount of honey. Parties having honey in the comb, or extracted, will please correspond with us at once, stating how much they have to spare, quality, condition, price, &c.

Langstroth Hives, and Glass Honey Boxes for sale, in quantities to suit purchasers. When you write, state how many hives and boxes you want, and we will send you the prices. Address, NATIONAL BEE HIVE COMPANY, St. Charles, Kane Co., Ills. Jan'y, 1872—tf

R. R. Murphy's Improved Honey Extractor.



The best, most desirable and cheapest Geared Machine in the market. It will empty the most honey with the least injury to the comb of any machine in the market. Also the best honey knife in use for uncapping comb with inequalities in it.

I am also manufacturing all kinds of Honey Boxes and Frames from white pine, on short notice, as the cheapest. Please give name, P. O. and Co. plainly written to avoid mistakes.

Send stamp for terms, etc.

Address, R. R. MURPHY,

Fulton, Whiteside Co., Ills.

May, 1872—6mo.

CHESTER WHITE PIGS.

A few pair of pure Chester pigs from 4 to 8 weeks old, at \$15.00 a pair, one half former prices.

Address,

W. H. FURMAN,

May, 1872—tf.

Cedar Rapids, Iowa.

SECTIONAL SURPLUS HONEY BOX.

After ten years' practical experience with the Sectional Honey Box, I feel fully warranted in recommending it to the beekeeping public as having no superior.

Bees will store thirty per cent. more honey, which will sell thirty per cent. higher in market than in the common six pound box.

It is better adapted for the use of the honey slinger than the movable comb frame, made to dovetail together without the use of nails or screws. A child can put them together rapidly.

Illustrated circular sent on application, sample fifteen pound box sent by express for 35 cents, three for \$1.00.

H. M. JOHNSON,

May, 1872—3mos.

Marshall, Mich.

VOYAGE TO ITALY.

I have associated with the Italian Bee Co., of Des Moines, Iowa, in the importation of queens, from the best apiaries of Italy. By this arrangement I shall go to Europe, arriving in Italy about the last of July. I shall buy and pack the queens myself, attending to all the details in person, and am confident I can get them here safely with small percentage of loss.

We undertake this, assuming the risk and expense, for the purpose of stocking our own apiaries. If any one desires to send by me for queens, they can ascertain cost, &c., by addressing the Italian Bee Co., Des Moines, Iowa, enclosing stamp.

CH. DADANT.

May, 1872—1t.

NATURAL, PROLIFIC ITALIAN QUEENS.

A pure, tested Italian queen, warranted, with guarantee of safe arrival, \$5 each.

A pure Italian queen, sent as soon as fertile, without guarantee, \$1.50 each; three for \$4; four for \$5.

They are more prolific, live longer, and their workers live longer, are more industrious, and in same season and locality will lay up more surplus honey than workers of artificial queens.

Extract from a letter, dated April 4th, 1871:

While I differ entirely from you on this point—Natural v. Artificial Queens—I still think your plan a good one for getting choice queens.

L. L. LANGSTROTH.

The cash must accompany every order. Send early to secure, as I shall raise only a limited number this season.

JOHN M. PRICE,
Feb., 1872—6mos. Buffalo Grove, Iowa.

PURE HONEY WANTED.

The subscribers will purchase, or will receive, to sell on commission, any quantity of new honey, and in any form, if pure. Do not wish to buy or sell any sugared honey.

D. S. HEFFRON & CO.,
193 Washington St.,
Aug., 1871—tf. Chicago, Ills.

EARLY QUEENS.

A few *pure* and *prolific* Italian Queen Bees, bred last summer in the Switzerland of America, for sale in April next, or earlier, at fifteen dollars each. "First come, first served."

Northern correspondents please address, "via Washington, D. C."

W. C. CONDIT,
Howard Springs, East Tennessee.
Jan'y, 1872—3 mos.*

ITALIAN QUEEN BEES.

Send stamp for my New Circular for 1872 containing prices of Pure Italian Queens from my *direct* importations. Full colonies of Italian Bees. Alsike clover seed, &c.

T. B. HAMLIN,
Importer and Breeder of
ITALIAN QUEEN BEES.
Edgefield Junction, Davidson Co., Tenn.
May, 1872—tf.

A GREAT CHANCE FOR AGENTS.
Do you want an agency, *local or travelling*, with an opportunity to make \$5 to \$20 a day selling our new 7 strand White Wire Clothes Lines? They last forever; sample free, so there is no risk. Address at once, Hudson River Wire Works, cor. Water St. and Malden Lane, N. Y., or 16 Dearborn St., Chicago Ill. Sep. 1871, tf.

ITALIAN BEES.

I wish to say to my friends and beekeepers generally, that I have supplied my apiary with a superior lot of imported and home-reared queens of *undoubted purity*, for the coming season.

Italian Queens for sale. For circular address

R. M. ARGO,

Lowell, Garrard Co.,

Feb., 1872—5mos.

Kentucky.

ITALIAN QUEEN BEES.

We will send by mail, Italian Queen Bees of this year's rearing, whose hatching brood shows three distinct yellow bands. Price, \$4 each, or \$40 per dozen, postpaid.

JOSHUA SHAW & SON,

Chatham Center,

Feb., 1872—7mos.*

Medina Co., Ohio.

HONEY EXTRACTOR.

I offer to bee cultivators a Honey Extractor, which is acknowledged by those who have used it, to be the most substantial and convenient in the market. For circulars, giving cuts, with prices, &c., Address,

HENRY W. STEPHENSON,

Apr. 1872—3 mos.

Cincinnati, Ohio.

ITALIAN BEES.

Full colonies of pure Italian Bees and Queens for sale. Circulars sent free. Address,

G. BOHRER,

March, 1872.

Alexandria, Madison Co., Ind.

COMB GUIDE PRESS.

With this instrument a child can put Wax Comb Guides on twelve frames in five minutes.

Price of the instrument, delivered at the Express office, \$1.25. Send stamp for a sample.

COMB-FASTENING PRESS.

This implement fastens quickly and substantially Dry Combs, or Comb Foundations, in the frames. Price, \$2.

Comb-Guide Press and Comb-Fastening Press, together, \$3. When ordering, send the inside length of the top bar of your frames.

Patent solicited.

CH. DADANT,

April, 1872.—tf.

Hamilton, Ills.

METALLIC BEE HIVE.

Those wishing to test the METALLIC BEE HIVE, will receive one by mail, upon sending one dollar to A. F. COBB, June, '72.—2mo. Chapel Hill, Lafayette Co., Mo.

FOR SALE.

One hundred colonies of Italian bees *must* be sold before next winter. Ten colonies for \$90. Fifty for \$400. All above fifty at \$8 per hive.

Address

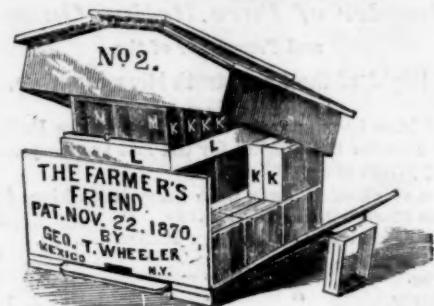
J. WARD,

Fort Atkinson,

June, 1872—4mos

Jefferson Co., Wis.

A NEW BEE HIVE,



With improved honey boxes and frames. Two styles, Nos. 1 and 2. Illustrated Circular and price list sent free.

GEO. T. WHEELER,
Patentee and Manufacturer.

T. H. B. WOODY,
General Agent,
Manchester, St. Louis Co., Mo.
June—1872.

BROKENSTRAW VALLEY APIARY.

CHOICE ITALIAN QUEENS, FOR 1872.

I have made extensive preparations for the breeding of choice Italian queen bees. Great care taken in the selection of mothers, and due attention in crossing. I am favorably situated for the purpose of breeding and shipping. No black bees within two miles, and but few within five miles of my apiary.

Also—full stocks of Italians for sale at all seasons.

Address,
W. J. DAVIS,
P. O. Box 91, Youngsville,
Feb., 1872—6ms. Warren county, Pa.

ITALIAN QUEEN BEES.

I shall breed Italian Queen Bees for the coming season, from imported mothers of undoubted purity. Safe arrival and purity guaranteed, in every shipment. Queens sent by mail.

Address,
T. H. B. WOODY,
Manchester,
Dec., 1871.—tf. St. Louis Co., Mo.

HIVE FACTORY FOR THE WEST.

ESTABLISHED IN 1860.

Have made and sold from 400 to 1,000 Langstroth Hives each year since.

Hives and boxes always on hand and for sale at reasonable rates, either complete or in K. D. condition.

Send for price list. Address,
W. T. KIRK,

P. O. Box, 1140,

Mar. 1872.—3 mo. Muscatine, Iowa.

